THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

JUNE, 1884.

PARTURIENT APOPLEXY.

BY ROBT. GLASS, M.R.C.V.S., GLASGOW.

ALTHOUGH I cannot boast of a long or extensive practice in diseases of cattle, I have somehow been irresistibly drawn to the study of this malady in cows; and further, I have been tempted to write a theory on it.

Notwithstanding the numerous opinions we have received on this disease, I do not think that we have yet got the true theory, for the simple reason that the percentage of fatal cases is very large for a disease which we have little hope of being able to prove is due to a specific germ. With these few remarks, which may be looked upon in the light of an excuse for my presumption, I will give my opinion.

Theory.

Parturient Apoplexy is an apoplexy of some or all of the following structures, viz., the mammary gland and abdominal organs, due to a sudden loss of pressure on the vessels of these organs, which loss of pressure is caused by expulsion of the fœtus, and want of contractile power on the part of the abdominal muscles. This congestion of these organs causes anæmia of the brain and spinal cord, and so produces a condition of syncope.

Having made this statement, it behoves me to bring forward some evidence to support it. Now it so happens that I think I

can, with a little argument, use up nearly all that we really know of this disease to support my theory. To simplify matters, I will take the facts as stated in the article in Fleming's "Obstetrics," and build up my argument on them. I also think that if my readers are favourably impressed with my theory, they will be still more so if they read the article, from which I will quote largely.

Argument.

Why did it become more prevalent with the improvement in the breeding of cattle? Artificial rearing and domestication increases the reproductive function, and with it the development of the mammary gland.

Why is the disease peculiar to cows? Man has converted this animal into a producer of milk, and this conversion has resulted in such an increased development of the mammary gland that it is questionable if this is not—with the exception of the lungs—the most vascular organ in the body.

What has the increased size, weight, and vascularity of the mammary gland to do with the disease? It has thrown more work on the abdominal muscles, and rendered the organ capable of containing a large quantity of blood.

Why is its invasion sudden, its course rapid, and characterised by loss of consciousness and paralysis, seldom by convulsions?

Because it is an apoplexy in every sense of the word, except that it is not due to extravasation of blood in the brain.

Why are recoveries sometimes as rapid as the attack was sudden? Dropping after calving (this is not used as a name for the disease, but as a result) increases the pressure on the mammary gland and abdominal organs, and so may remove the congestion, and restore the cerebro-spinal circulation; then the great controlling force of the body is nourished, and under its stimulus all becomes normal.

Why is there no fever present? It is not an inflammation of any organ, only a congestion of several organs. If fever is present, some organ has become the seat of inflammation.

"It may attack the cow as early as twelve or twenty-four hours after parturition, and generally follows an easy and rapid birth. It has, though rarely, manifested itself before parturition, and

also during the act. It is seldom that it appears after the third day." If it is due to the condition that I have pointed out, it is possible that it may attack the cow at any time after the uterus has begun to contract and lessen the pressure on the various organs. It is seldom seen after the third day, because the contraction and lessening of the volume of the uterus is less rapid after that time, and also because three days may be considered a fair test of the capability of the abdominal muscles to keep up the pressure on the abdominal organs. It is generally seen after an easy and rapid birth, because this is accompanied by rapid contraction of the uterus, and sudden removal of pressure on the vessels of the mammary gland and abdominal organs.

"The best-bred and the best milkers are those which are affected," because this is the class that man treats in the most artificial manner. This is the class that are housed, kept warm, fed on artificial and stimulating food; and man, by artificial means, increases the irritability, size, and development of the mammary gland.

This housing, tying-up, keeping warm, and rich feeding, while it increases the quality and quantity of the milk, produces a relaxed and toneless condition of most organs, also fatty infiltration of the muscles and the liver; this last condition is accompanied with a sluggish portal circulation, and so favours the congestion of the organs I have named as causing the disease.

"It very rarely occurs till after the third calving." In other words, up till this time nature has been subject to the wish of man, but now he has gone too far, and nature resents his interference with her works. By this time (much depending on the way the animal has been kept, fed, and milked) the mammary gland has become very vascular and heavy, the abdominal muscles have become toneless and infiltrated with fat, and unable to raise up and keep up the heavy gland and abdominal organs. The pressure on the vessels of these organs is lost. The result is, as I have already stated, congestion of some or all of these organs, anæmia of the brain and spinal cord, and the animal, as has been truly said, "bleeds to death in her own vessels" (Fleming's "Obstetrics," page 661), and, I would think, particularly those of the mammary and portal circulations.

"It has been said that cases are more frequent when there is a diminution of barometric pressure." This is exactly what I would expect, for if the atmospheric pressure was sufficient to keep up the pressure on the abdominal vessels, there would be no congestion.

As a good instance of congestion from sudden loss of pressure, and one which I think resembles very much the one I am trying to prove, take that caused by the sudden removal of ascitic fluid. I remember Professor McCall, when describing the operation of paracentesis abdominalis on the dog, charging us to be very particular about using a bandage to support the abdominal organs, or syncope would be the result. How is this? I suppose it is due to abdominal congestion and consequent cerebro-spinal anæmia.

"Köhne and Banderscheren have boldly said that protracted and difficult labour is never followed by Parturient Apoplexy." Though I would not like to be so positive, I consider that their assertions go a long way in proving my theory correct, because in those cases the removal of pressure is gradual.

"The more rapid the uterus contracts and resumes its normal size, so the more danger there is of Parturient Apoplexy, while the longer it remains relaxed, or the membranes are retained in it, so the chances are diminished. In the examination of the bodies of cows which have perished, the uterus is generally found very firmly contracted. Before the expulsion of the fœtal membranes the disease is exceptionally rare." All these facts go to prove my theory correct, for if the expulsion of the fœtus is rapid, the contraction of the uterus must also be rapid, and so also is the removal of pressure; then the abdominal muscles are called upon to perform a feat for which, from their fatty, infiltrated, and toneless condition, they are unable.

"Constipation and gastric repletion have been held by one or two writers to be the cause, and others attribute it to overfeeding immediately before parturition." These men are right so far. All these conditions help to impose upon the abdominal muscles a task for which they have not been in training.

Having thus briefly given you my opinion, I may be allowed to make a suggestion in the way of treatment.

Preventive Treatment.

Allow cows sufficient exercise to maintain the tone of the muscular system; only solicit cows to yield a limited quantity of milk. At the third, or any calving where you expect it, have a broad truss hanging round the belly; immediately after calving tighten up this truss by a series of straps and buckles, and so assist the abdominal muscles to keep up the pressure on the vessels of the abdominal organs. If the truss could be so constructed that it might press uniformly on the mammary gland, so much the better.

Curative Treatment.

Apply truss as before; give stimulants, and employ subcutaneous injection of ergotine. Of course the milk should be drawn from the gland—when it will come—to prevent inflammation of that organ from distension.

General Remarks.

The stage of excitement is due to the limited quantity of blood going to the brain, and consequent alteration of the pressure on that organ; the comatose condition corresponds to the slow death of the brain. These two symptoms will vary in duration, according to the rapidity and extent of the abdominal congestion.

The arrest of the secretion of milk is due to the congestion of the mammary gland and altered nerve-stimulus.

Amaurosis, a common symptom, because the eye is dying from want of nutrition and nerve-stimulus.

Paralysis: the brain and spinal cord are dying from want of blood.

This theory is somewhat analogous to those of Wermers and Francks. I hope I may have done something that will help in some way to clear up the mystery.

The most recent writer on this subject, J. H. Cox (VETERINARY JOURNAL, vol. xvii., page 336), lays great stress on thrombi as the cause of this disease. I do not think that they are the cause of the disease, but only a result, and that these are formed by the congestion, which is a common cause of Thrombosis.

This same writer claims to have had great success from the use of subcutaneous injections of ergotine, etc., etc., also the cold wet pack, covering it with several rugs and a mackintosh sheeting. How is this? Ergotine causes the blood-vessels, both arteries and veins, to contract (it is doubtful if any agent rivals it in this respect), and so may remove the congestion. The cold wet pack at first stimulates the muscles to contract, and then, after a time, stimulates the cutaneous circulation; both of these actions help to remove the congestion, and restore the circulation to its normal condition. To the two named remedies I would attribute his success.

PRACTICAL OBSERVATIONS ON TETANUS IN INDIA.

BY GERALD H. FENTON, VETERINARY SURGEON, 3RD LIGHT CAVALRY, BOWENPILLY, SECUNDERABAD.

THERE is no doubt in my mind that Tetanus is much more prevalent in India than at home, especially the idiopathic form of the disease; in fact, out of several cases observed in England I have not come across a single one not traceable to traumatic causes. It may be remarked also that in India the idiopathic cases seldom prove fatal. I had the opportunity, during three years' practice in Calcutta, of observing several cases of both varieties of the disease, as well under my own care as under that of Mr. Spooner Hart, M.R.C.V.S., who kindly showed me a case or two of idiopathic Tetanus, and other veterinary surgeons. Since my arrival at that part of Secunderabad called Bowenpilly, I have had under my care four cases belonging to the 3rd Cavalry, and one in a mule belonging to the Madras Transport Department. In contrast with this I may observe that I can find no record of Tetanus occurring among the horses of this regiment during the last ten years of its continuous stay at Saugor in the Central Provinces. It is important to determine why the disease thus seems frequent in two stations, and very rare, if ever seen, in a third. Saugor in average temperature is much lower than Secunderabad or Calcutta; and we may place it about midway between Calcutta and Secunderabad as concerns humidity. I

believe it has been placed on record that Tetanus is prevalent in the dry climate of Lower Egypt, but Mr. Hurford has recorded in the *Veterinarian* that when the 12th Lancers marched through the desert on their way from India to the Crimea, although all the horses were castrated and marched with their wounds open, no Tetanus supervened. Thus we have much to learn yet concerning the influence of climate in generation of the disease, but the evidence from my practice is that however much exposure to draughts and adverse winds may act as a cause, we have no evidence that the disease is more frequent in cold damp weather than in hot; indeed, if anything, the balance is in favour of the latter. Thus, out of the five Secunderabad cases, one *only* occurred during the rains, and the other four were during the hot weather. I may here give a short record of these and some others which have been brought to my notice in this country.

Case 1, *F* 601.—Dark dun northern gelding; rising nine years old; admitted 30th July, 1881, died 4th August, 1881.—Traumatic Tetanus, due to a bite from another horse on neck about three weeks ago, now healed; only at first an abrasion; the patient received a cathartic which did not act. It is noteworthy that this case lasted five days.

Case 2, *A* 482.—Brown gelding, northern, rising eleven years old; admitted 28th April, 1882, died 1st May, 1882.—The patient received a wound on inside of near arm from falling on stony ground some eighteen days ago; discharged cured. Fifteen days afterwards, there being no sign of the wound left, he went to duty and three days after that was admitted with marked Tetanus. Acid hydrocy. was inhaled several times a day. No physic given. Bowels relaxed at time of attack. Death ensued on third day.

Case 3, *E* 758.—Grey gelding Persian, aged six years off; was castrated by clamp and hot iron; progressed favourably with free discharge of healthy pus. Eight days after operation (17th February, 1883) incomplete Trismus set in and the castration wounds began to gape, with thin scanty discharge. The case was characterised by extreme nervousness of the patient, and rapid death forty-four hours after Trismus set in. No physic was given to the animal. The movements remained fairly free, and the

cartilago nictitans not protruded within three hours of time of death; a foul smell of the saliva was noted. The treatment adopted was Belladonnæ ext. in enema, and carbolic applications to the wounds. Autopsy showed: spermatic cords, internal part healthy, external in a condition to be anticipated nine days after castration; lungs congested; heart, left side filled with dark black blood, right with a yellow clot; soft, flabby, and large. Brain, vessels of membranes congested; plexus choroides of lateral ventricles the seat of gelatinous exudation.

Case 4, *E* 760.—Dark chestnut Persian gelding; four off; admitted 23rd April, died 24th April, 1883.—Had been castrated eleven days before attack. Ate grass in the morning, and half an hour after Tetanus of very acute character set in. The weather, having been hot, had now suddenly become cold with much wind and lightning. A powerful cathartic dose was given, although on this, the first day of the attack, much hard and dry fæces was expelled. The animal died in about thirty-six hours, having been treated with Muriate of Morphia in considerable quantity, injected subcutaneously (which produced no appreciable effect), and with Chloroform inhalations, which produced temporary (for about two hours) relaxation of the spasms.

Case 5 is so remarkable that I give it in full detail; but would ask my readers whether it is to be considered an idiopathic case or traumatic, for we have no evidence of a wound being the cause. On the 21st of April, 1883, I was requested by the D. A. C. General for Transport, H. S. Force, to visit a mule (mare), No. 113, at the Cattle Kharkhana of which I am in charge, supposed to be suffering from locked jaw. I went accordingly and found the usual symptoms well marked, but the jaws were not fixed and admitted of a physic ball being administered. On inquiring into the cause, I was astonished to hear that on the day previous, whilst watering, another mule mounted her and performed the act of copulation (and as the men say who saw it) completely, although the mare was not in season. The consequence was the vagina became very much swollen, and Tetanic symptoms showed themselves on the following day as before mentioned. The mule was placed in a large loose box, which was kept quite dark, and a cathartic given, aloes 3v., Ol. Croton.

Mxv. Two days later the bowels were only gently acted upon; ordered soft diet which the animal ate; visit ed the patient from time to time, and she always had great difficulty in moving about, nearly falling down, the muscles being generally fixed and rigid. At the end of May we examined her again and found that she moved with far greater ease; the jaws were quite free, and on raising the head the cartilago nictitans only slightly protruded. Increased the rations and recommended more rest. In the middle of June the mule went to gentle exercise, which has been gradually increased, and was discharged as fit for duty. At the time of writing this paper I may add that the mule is doing her regular work; no recurring symptoms have been exhibited.

The following cases I quote from memory.

Case 6.—A livery-stable waler horse in Calcutta was kicked on the ribs by another animal; a slight abrasion resulted. Some eight days after the accident Tetanus set in, and death ensued on the tenth day after the injury. This was during the hot weather. Subcutaneous injections of strychnine, in enormous doses, produced no appreciable effect.

Case 7.—A bay waler carriage gelding, the property of the Viceroy (Lord Northbrook), was attacked with severe Congestion of the Lungs; venesection was resorted to. An hour before death distinct Trismus set in; died in two-and-a-half days after I was called in to treat him.

Case 8.—Grey waler cob, wry-necked as the result of an accident; whenever the head was raised the cartilago nictitans protruded. This case remained *in statu quo*, the animal being "discharged relieved" and going to work. Although not one of Tetanus, this case presents noteworthy features, the cervical muscles being rigid on one side of the neck, and the cartilage protruded.

Case 9 (in practice of V.-S. Pallin, A.V.D.).—The patient, a polo pony, had been blistered for sprained fetlock, without cure; was purged, and on 4th May, 1883, fired; on 24th May Acute Tetanus set in when the firing wounds were cicatrising; the symptoms came on suddenly. A large dose of aloes given on the tongue, and the fired surface washed and dressed with

belladonna ointment; died three days later. Very hot winds prevalent. Mr. Pallin, in his record of this case, remarks that during the same week some eight cases of Tetanus occurred within a radius of seven miles, and the disease therefore had somewhat of an epizoötic form. I have seen, but not recorded, several cases of the idiopathic form, mostly among freshly-landed "walers" in Calcutta, and in them treatment, or rather non-interference, proved successful. With reference to Mr. Pallin's remarks, I may state that I have heard of a case which occurred in the Hyderabad Contingent about the same time, in which *tetanic fits came on periodically.* From the above cases we are led to conclude that hot weather is concerned in the development of the disease, but only as a predisposing cause, there being necessary some unusual or specific atmospheric condition, such as the hot winds noted by Mr. Pallin, the sudden change from heat to cold, and electrical phenomena mentioned by me in record of Case 4 (the remarks on which also apply to Case 3), or perhaps on special enzoötic influences. Thus, while Case 3 occurred, I heard of a pony in the lines near at hand also being affected, and in Chudderghaut several cases occurred simultaneously. It may be observed that Chudderghaut, Bowenpilly, and Bolarum are moister than Trimulgherry, and Tetanus is much more frequent in them. We may, therefore, agree with Professor Williams' view that Tetanus occurs oftenest in hot weather, and we may recall to our minds his observation that Idiopathic Tetanus may result from accumulation of sand in the bowels, which, perhaps, will account for so many cases of the idiopathic form occurring in India.

It is very evident that Traumatic Tetanus may be the result of *any* form of injury. Williams mentions a case of Tetanus caused by a blister, and the cases given show it from a slight wound of the neck, and from other injuries ranging up to those necessary in castration. It is interesting to note that the less acute cases resulted from the cicatrising wounds and the most severe from the castration wounds in their suppurating stage. The subjects of the latter, however, had been recently imported and marched to this station from Bombay. The cases seem to have been of all the ordinary service ages, ranging from four

years to twelve, except in the case of the mule, which was older.

Breed evidently also does not predispose to the disease, mules, ponies, persians, arabs, northerns, and walers being attacked by it.

SYMPTOMS: proved much more acute, and the nervous excitement much more severe in those cases which resulted from castration than in the others. They seem to prove fatal before the symptoms of the disease have had time to reach their full development; thus, in Case 3 the movements remained fairly free to within three hours of death, although the jaws were firmly locked, and acute paroxysms occurred at intervals; probably in these cases death resulted from the heart being involved to a fatal degree functionally in the nervous derangement—or in plain words, the animal is "scared to death" by slight noises and movements, however quiet you may try to keep everything around him. There is apparently no definite relation between the seat of injury and the muscles which are first involved in the tetanic spasm. Certainly in my experience the animal seldom lives to such an advanced stage of the disorder as to succumb at length only when the diaphragm becomes involved in the general spasm.

TREATMENT: *general.* I may claim to have experimented freely in the treatment of this affection, but in no case have I ignored the principle that quietude is to be secured by every possible means.

It will be observed that hydrocyanic and belladonna enemata muriate of morphia subcutaneous injections, strychnia internally, and large doses of physic, were each in turn tried, and each proved ineffectual; chloroform inhalations had a temporary effect. *Local* treatment in traumatic cases would at first sight seem rather a hopeful line of practice, for the wound is the cause, and probably some state of it the actual immediate producer of Tetanus, but neither carbolic applications nor belladonna ointment served to influence the progress of the disease. The results of my local treatment, therefore, have hitherto been *nil.* Certain surgical methods have recently been suggested; of these *nerve-stretching* seems to be worthy of a trial in veterinary practice when possible; but *neurotomy* has already to an extent been tried, and it is said that it has proved successful. There is an

old book entitled, "A Manual of Modern Farriery," by Thomas Brown, M.P.S., in which we read that he gives nicking and docking as common causes of Tetanus, and recommends in the former a deeper incision, and in the latter a fresh excision higher up, and states "by these means the spasms have, in many instances, been removed." But since he goes on to assure us that dashing cold or hot water against the affected animal has proved successful in a number of cases, we begin to have grave doubts as to whether he is not drawing on his imagination. However, neurotomy is not a very practicable method at the best. Suppose an attack attributable to what we read is a very frequent cause (although I have never seen such a case), puncture of the foot; here the main nerves of sensation could be divided, but then there are sympathetic fibres arranged in networks about the outer coat of the arteries; and the sympathetic system (for all we know) may be quite as much the line of communication as the cerebro-spinal! We can add nothing to the generally-accepted view, that nature must practically be left to her unaided efforts in Tetanus, except that experiments made by me confirm the view that the paroxysms of Tetanus are controlled by chloroform, and the question naturally arises whether, if we could keep a tetanic patient under anæsthetic influence for a prolonged period, the Tetanus would not, of its own accord, pass away without fatally exhausting the patient, as it usually does. In the absence of paroxysms, nutritive and cathartic treatment might be adopted with some chance of success. It must, to the veterinary surgeon, be a source of astonishment to read how many cases of Traumatic Tetanus are cured, especially by non-veterinary writers. Colonel Ryves' friend, Colonel Brown, is a firm believer in homœopathic medicine, which really means leaving cases to nature, but his "Nux Vomica by Olfaction" would somewhat interfere with the necessary quietude! In fact, the treatment recommended in all but our standard professional works errs on the side of fussiness—*the only chance of cure is to keep the patient quiet.* Many of the so-called cures of Tetanus were not cases of Tetanus at all, for there are several diseases which the amateur practitioner might mistake for true Tetanus.

True Nature of Tetanus.—I have now to ask, What is the pathology of this disorder? *I do not call it a disease, but a symptom of disease*, because tetanic spasm may be due to many pathological states. I consider that such terms as Tetanus, Cough, Colic, are simply used by us as a convenient description of cases of which we have not thoroughly fathomed the nature. Thus, Colic is abdominal pain without inflammation, which may be due to almost any non-inflammatory derangement of abdominal viscera. Cough is a physiological process, or else an indication of some disease or other of throat, lungs, pleura, stomach, womb, or almost any other organ; and Tetanus is a state of spasm which may be due to strychnia poisoning, to electric stimulation of a nerve, to inflammation of the spinal cord, or to some disease of which the exact nature is generally obscure. When we cannot trace tetanic symptoms to their true pathological state, we call the case one of "Tetanus," just as we speak roughly of "Colic" and "Cough." It will be seen that nothing particular was detectable on ordinary *post-mortem* examination in our cases. The blood is dark and black, and the saliva fœtid. This might indicate that Tetanus is a specific blood disease, but German experimenters have transfused the blood of Tetanus patients to sound animals, and the disease was not thereby conveyed. In these days of bacterian craze, we might expect to hear of an organism in Tetanus, but none has yet been described, and the arguments at present, notably the transfusion results, are much opposed to its being due to germs. The wounds in the castration cases assumed unhealthy action with the commencement of Tetanus, but we are not in a position to draw any conclusion from this fact. Altogether, practical observation seems to confirm the view that in traumatic cases, *the theory of entanglement of the ultimate nerve-fibres is the most feasible which has been suggested*, although it hardly seems sufficient to account for the occurrence of Tetanus where no wound is present. Under these circumstances I look upon it as incumbent on any member of the veterinary profession who has known a case of Tetanus due to docking cured by re-docking, or any in which amputation or neurotomy has proved successful, to put it on record for the benefit of science.

Secunderabad, *26th March*, 1884.

As a remarkable case of Traumatic Tetanus occurred here the other day, the victim being one of forty-seven remounts which have recently been castrated, I thought it would be interesting to many to record it, as I have asked in the above paper if, were we to keep a tetanic patient under anæsthetic influence for a prolonged period, would not Tetanus of its own accord pass away? Now this is a subject which needs further investigation, and we are, I think, from the following case, not only justified, but bound to make further experiments. I may mention that this is the first time in my practice that I have administered a medicine "per trachea," and the results were simply remarkable.

Case 70, *D* 812.—March 19th, 1884.—Tetanus (Traumatic). The patient was castrated on the 8th March, and progressed favourably up till the noon of the 19th, when he presented the following symptoms:—Tail unusually erected, and rigidity of the neck-muscles, accompanied with fever; pulse fifty and small. Give Spts. æth. nit. ʒi., Magnes. sulp. ʒviij., Infus. chiretta Oj. Gave bran-mash at night, which he ate. It is noteworthy that on the evening of the 18th inst. that there was a considerable amount of lightning and clouds, and a cold wind blew all night, with a few drops of rain.

20th.—Symptoms more marked, and jaws partially closed; give Aloes ʒi., Cannab. Indi. ʒij. by means of a stick. As all treatment I have hitherto had recourse to in cases of Tetanus has proved unsuccessful, resolved to try the injection, per trachea, of Ext. belladon. ʒiv. in solution. The patient in a very few minutes became comatose, and the eyes had quite a green appearance, the pupils of which were, of course, dilated; there was stertorous breathing. The patient remained perfectly quiet up till night, when ʒij. of the extract was again injected into the trachea, with the same marked success.

21st.—Cathartic acting well, symptoms more marked in the rigidity of the muscles generally, making the movements very difficult, and jaws almost completely locked. It is very remarkable that up to now there have been no paroxysms or sweating—which, of course, I attribute to the belladonna. Give

linseed-tea, eggs and brandy, with one pound of ice by means of Reid's enema pipe, pumped into the mouth. He swallowed all this, and had no paroxysm; repeat the injection per trachea (℥ij. of the extract), and inject per rectum three quarts of linseed-tea with Extract hyoscya. ʒij. At night, patient no worse, and very quiet; repeat the morning's treatment and nourishment.

22nd.—The patient is very quiet, shows no pain; repeat treatment. The animal remained very easy up till evening, when, after being fed with Reid's pipe, and after being injected per rectum, the first paroxysm I have noticed came on, with profuse sweating; he fell down and died in about three-quarters of an hour.

Post-mortem examination, made twelve hours after death, revealed internal organs healthy; spermatic cord internally healthy, externally in a condition to be expected fifteen days after castration.

22nd.—Discharged. Died.

ERGOTISM IN THE UNITED STATES.

BY C. H. SWEETAPPLE, VETERINARY SURGEON, SECRETARY AND REGISTRAR, ONTARIO VETERINARY ASSOCIATION.

HAVING returned from investigating the cattle disease in the Western States which has caused such alarm there during the past few months, and meeting Prof. A. Smith of the Ontario Veterinary College, Toronto, he requested me to forward the result of my investigations to the VETERINARY JOURNAL, thinking it might prove interesting.

I arrived in Kirksville, Missouri, on the night of March 24th. This is a thriving town, west of the Mississippi River, "the father of waters," and about seventy miles north-west of Quincy, Southern Illinois, where I was informed that the disease had appeared in quite as virulent a form as in any part of the West. The next morning early I started on my investigations. About six miles from Kirksville I came to Mr. Bragg's farm. He owned about thirty-five head of cattle—had had four deaths. Ten animals were then in various stages of the disease, which exhibits itself in the following form: some of them with one or

both legs off a little below the hocks, some off at the fetlock joints, some with the feet off, some with one leg off and the other dangling, and some with the legs, one or both still on, but with a clear mark of division between the living and dead tissues. This is a general description of the appearances in all the herds I visited. On this farm I saw also three more fresh cases, with the hind legs without circulation or sensation; from the hocks downwards, the legs of these also appeared completely dead. The animal temperature of the fresh cases was about 103°, that of the old cases would range about 102°. The *hind* legs were usually affected, not often the fore legs. The stumps in some cases were healing, and the animals ruminating, but they were in a very low, weak state. In a few cases I found slight sores in the mouth, but nothing whatever to indicate Foot-and-mouth Disease *(Epizoötic Aphtha)*, which it had been pronounced by some. It was clearly a dry gangrene of the extremities, and on a careful examination of the food, I found *ergot* in very large quantities in the hay—principally in a small, fine grass called "red-top." A pocket glass of low magnifying power revealed it in great plenty—in fact, I could scarcely find a head of this grass that was not full of it.

The next herd I visited I found much the same state of affairs, and many affected. One heifer had just aborted, and there had been four other abortions.

Another herd of eighty-six cattle was visited; fifty-five of these were affected more or less severely with the dry gangrene, and there had been some abortions.

I visited all the diseased herds in the neighbourhood, and found the same evidences of disease, with greater or less severity, and in all cases ergot was easily found in the hay, the severity of the symptoms and the number of cases bearing a direct proportion to the quantity of ergot in the hay. It was clearly *Gangrenous Ergotism.* Of course, seeing this it was not necessary to prove the well-known medical fact that ergot produces gangrene of the extremities, also abortion; but to satisfy parties in the neighbourhood, I examined the food of healthy herds, of which there were plenty. I could find no ergot in their hay, which was usually composed principally of

timothy and clover. Last year being an unusually wet, cold season there, would no doubt account for such a large production of ergot.

From the symptoms described, I feel confident that the recent different outbreaks of disease in this and neighbouring states are all of a similar character, and have been due to a similar cause.

INVERSION OF THE BLADDER, WITH CYSTIC HERNIA OF THE INTESTINES IN A MARE DURING PARTURITION — DEFORMITY OF FŒTUS.

BY J. WOODROFFE HILL, F.R.C.V.S., WOLVERHAMPTON.

AT 5.30 a.m. on the 6th May I received a message to attend a four-year-old cart-mare unable to foal, at the Wolverhampton Corporation Sewage Farm. On my arrival I found the animal in hard labour, the two fore feet of the foal protruding from the vulva, and a hind foot in the vagina, but the head out of reach. I diagnosed the case as one of anterior presentation, with deviation of the near hind leg, and lateral deviation of the head towards the shoulder. Having secured the fore feet with cords, an attempt was made to push the foal back again into the womb, but owing to the rigid and fixed position of the hind limb, this could not be accomplished. A crutch was then extemporised, and whilst the manager was examining the position of the foal, the bladder of the mare was suddenly inverted, and became rapidly distended and congested.

Owing to the nature of the case, and the value of the mare, I suggested the advisability of a second opinion, naming Mr. E. Meek, of Walsall, as an experienced obstetrist, and this gentleman was at once telegraphed for. In the meantime chloral hydrate was administered to allay the straining, which was very violent, and keep the patient quiet.

On arriving again at the farm, we found the entire bladder protruded, of a deep crimson hue, enormously distended and tense. To return the viscus in such a condition being impossible, as also to attempt delivery in the presence of such an obstruc-

tion, it was decided to tap it on the upper surface near to the neck. Nothing passing through the small canula, Mr. Meek used a lance, when a quantity of fluid fæcal matter spurted out. On passing the finger through the incision, the inverted bladder was found to contain intestine. With such a complication, and a running-down pulse, we considered the case hopeless, and for the double purpose of avoiding a prolongation of suffering, and the off chance of saving the foal, the mare was shot, and the Cæsarian section immediately made. The foal, however, was dead, and found to have occupied the position I in the first instance diagnosed.

The head was lying on the off shoulder, the muscles of the neck on that side being contracted, the upper jaw and nasal bones being curved in the same direction, or, as Dr. Fleming in his "Obstetrics" observes, "Moulded, so to speak, to the parts on which they had rested during intra-uterine existence."

The hock of the limb which, through its rigidity, had given us so much trouble, was found to be inflexible, and to only yield in a slight degree to reverse action. It was considerably enlarged in the seat of Spavin, presenting precisely the same appearance, and when manipulated the same feel as in an ordinary badly-spavined hock (I have not yet made a dissection of it). The off hip joint was also deformed and enlarged (not yet investigated).

The inversion was then examined, and the bladder found to contain several feet of the mare's intestines, which had evidently been forced into such an unusual position by the foot of the foal, whose movements were strong during the early part of labour—an opinion expressed by Mr. Meek upon his arrival.

I have recorded the case as possessing some interest, and which my *confrère* and self believe to be unique in equine obstetrics.

COMPARATIVE SPHYGMOGRAPHY.

BY D. ASTLEY AND J. BRODIE GRESSWELL, LOUTH, LINCOLNSHIRE.

THERE are many difficulties which beset the application of the ordinary sphygmograph to animals—by ordinary sphygmographs we mean the direct, Marey's and Dudgeon's. Most of these

difficulties, however, are more or less easily surmounted, but some are apparently not so.

Among the latter we would include the case of animals of a restless, irritable temperament; moreover, the application of Marey's direct instrument is in most cases quite out of the question.

Of the direct instruments at present in use, we prefer Dudgeon's (made by Messrs. Arnold and Sons), but we feel that an instrument should be constructed specially adapted for application to animals, and indeed modifiable for application to different animals—modifiable especially in the shape and size of the button on the spring, and in the width between the bars which flank this button on either side.

And in making the instrument, we should bear in mind the sudden and apparently unprovoked movements of animals.

We think, however, that the so-called indirect instrument is the most easily applied of the sphygmographs at present in use, and that it yields the most trustworthy records.

Human sphygmograms are almost invariably taken from the radial artery; we prefer to take the sphygmogram of the ox from the facial or external maxillary artery, and that of the horse from the temporal artery.

Sphygmograms of animals will be useful, we think, when they serve as faithful records of the state of the pulse, and they will be the more faithful—we mean the more interpretable—if they be taken from those arteries with whose pulsations we are most familiar.

True, some prefer to gauge the pulse at the fetlock in the beast and at the fore-arm in the horse, but we believe that the majority direct their attention to the pulsations of the ext. maxillary in the beast, and those of the submaxillary of the horse (so that, taking the sphygmogram of the horse at the temporal, we take it at a point somewhat more distant from the heart than we would take the pulse).

In interpreting the direct sphygmograms of animals we are apt, perhaps, to be somewhat misled by the interpretation of the sphygmograms of man, but we must bear in mind several points in this relation.

Of these we would make mention of the following :—

(1) Animals supply an additional factor, viz., hair. We find it advisable, where feasible, to cut the hair close.

(2) The skin of animals is thicker than that of man, and when the sphygmogram is taken by the direct sphygmograph, a large bulk of skin is included within the bars which stand on either side of the button of the spring.

(3) The skin of animals is much looser, so that the sphygmogram is possibly further modified by even a duplicature of skin.

(4) The sphygmograms of man are almost invariably taken from the radial, while those of the horse we find most easily obtained from the temporal, and those of the ox from the external maxillary.

Hence, in these cases, *i.e.*, in animals, the tracing is taken nearer to the centre of the circulation than it is in the case of man.

As an illustration of the caution needed in applying the interpretation of the sphygmograms of man to those of animals, we would mention the case of dicrotism in animals, which (though it were very sensible to the finger, and though it apparently would, in the case of man, give an almost hyperdicrotous tracing) gives a tracing whose aortic notch scarcely descends to the base line; indeed, the tracings of an ox in a state of extreme emaciation, and close upon the point of death, which we took only a short time ago, though really indicative of extreme prostration in the animal, might be read, were it man's, as one of a considerable amount of tone.

We would conclude with an expression of a wish that sphygmography of animals were more generally practised, in order that those who have such ample opportunities might render a good service in the cause of physiological research, of pathological research, and of science.

Perhaps the following observations may merit insertion in the Journal.

Many veterinarians, I believe, have used, and do use, Liquor carbonis detergens.

I find a product equal in usefulness to this excellent liquor

may be obtained by mixing one pint of gas-tar, one pound of Sapo. moll.; three pints of Spirit. meth.; and digest for three or four weeks, occasionally shaking the mixture, and finally filtering.

A solution of crude carbolic acid is also of great importance to us.

I find that this so-called acid is easily dissolved by adding one part of Sapo. moll. to two or three of the acid, and the resulting fluid is readily miscible with water in any proportion.

Lastly a few words with regard to the therapeutic use of Sodæ sulpho-carbol. I have found this sulpho-carbolate salt of sodium extremely useful in Influenza; in two cases, after the administration of this drug, the pulse fell from 105 and 104·5 to 102° and 101° respectively.

I have also found it useful as an anti-ferment in Bovine Tympanitis. My brother, Dr. D. Astley Gresswell, late House Physician to St. Bartholomew's, informs me that seventy cases of Enteric Fever in that hospital, under the care of Dr. Southey, from April, 1882, to April, 1883, were all treated with sulpho-carbolate of sodium, and that only one of these patients died, and he within forty-eight hours of admission, of Peritonitis, which was present at the time of admission.

OSTEO-POROSIS AND SPLENIC ABSCESS.

BY C. RUTHERFORD, M.R.C.V.S., 6TH DRAGOONS, NATAL, SOUTH AFRICA.

THE two following cases, I trust, will be of sufficient interest to merit insertion in your valuable Journal.

OSTEO-POROSIS.

Patient.—An English-bred brown gelding, eight years old; a charger. In October, 1882, this horse suffered and recovered from an attack of Horse Sickness (Anthrax), but though reduced considerably in condition, he so rapidly made flesh as to be fit for work by the middle of November. Towards the end of January, 1883, he became lame in both fore-feet from Laminitis—not of a very acute but decidedly progressive nature for a time. By February 9th the lameness had so much decreased

that light rocking-shoes with leather soles were applied, but in spite of good nursing, careful dieting, etc., he became weak and debilitated, his coat unthrifty and scurfy; the mucous membranes were of a yellowish-red colour, the conjunctiva "occasionally" showing dark mulberry-coloured spots; respiration normal; pulse but slightly altered; the appetite was good; the urine sometimes high-coloured; bowels regular, the result of careful dieting. Both rami of the inferior maxilla were swollen, *i.e.*, the osseous substance beneath and around the first, second, and third molars (of each side) was enlarged and accompanied by infiltration of serum beneath the skin adjacent.

Within the next fortnight these enlargements had so much increased as to interfere with mastication to a considerable extent; they were felt to be of a bow-shape, both on the facial and submaxillary aspects, hard and painful to the touch; the first, second, and third molars on each side of the lower jaw were raised above their fellows, the incisors of the lower jaw could not touch those of the upper on attempting to close the mouth; the teeth were apparently healthy. On February 27th he was slightly lame on the near hind-leg; two days afterwards he could scarcely bear any weight on the limb, which was slightly swollen and tender from the hock to the fetlock, but most painful on the lower anterior third of the metatarsus. There was not the faintest sign of a bruise of any sort to be detected. By the 13th March the leg had gradually "fined down," he could put weight on it fairly well, and could walk about slowly to graze. At the end of the month the lameness had much improved—that of the fore-feet especially so; the near hind was almost natural in size, all that remained of the swelling being a bow-shaped exostosis, two inches long, on the lower anterior third of the cannon bone; but he was still in very poor condition.

During the following month he gradually improved in every way. Mastication was now a much easier matter, as the jaws could be closely approximated, owing to the six molar teeth having sunk to their natural position; the swellings of the rami were not painful, though still large and hard; the œdema had disappeared from the face and jaw; he could trot about slowly, and, though thin, his coat looked well.

During May and June he improved very much in condition, and was able to trot out fairly well; there was no lameness behind, and he only went a little short in front; but towards the end of July a change for the worse set in; after exercise, he was stiff, and inclined to lie down a great deal; his hocks and knees became swollen, hot, and tender, and his gait very stilty. On August 1st he was sold, and unfortunately I have lost sight of him.

Treatment.—Locally, for the Laminitis—at the outset, removal of shoes, lowering of heels, poultices, cold water bandages, etc. Medicinally—chiefly the administration of salines, iron tonics, hypo-sulphite of soda and salicylic acid. Whilst the near hind limb was so painful, hot fomentations, followed by dry bandages, were applied; and at the same time slinging was attempted, but owing to his becoming very violent it had to be abandoned. To the swollen jaws compound turpentine liniment was applied, followed by iodine ointment, and subsequently, on 1st April, by setons, left in for ten days, dressed with Ung. hdg. iod., 1 to 20. His food for the first three months consisted entirely of soft materials, such as mealie meal, bran, pulped roots, green oat-hay, and freshly-cut grass; afterwards of hard feeding—oats, mealies, etc.

I always thought Osteo-porosis essentially a disease of youth, occurring at the age of four or five years in the horse; hence it would be hazardous on my part to venture any comment upon its cause in this case, although the following points struck me to be worth noticing:—firstly, the quiescent period of nearly three months (May, June, and July), after which it suddenly re-appeared, not in an already affected spot, but in the hocks and knees; secondly, that no alteration in the shape of the fore feet followed the lameness in front; thirdly, he had always been well looked after, fed—same as the troop horses—on mealies, oat-hay, and grass; had always been in good condition previously, and had never formerly suffered from any ossific disease, excepting a small splint.

No other case has occurred, to my knowledge, amongst our horses, ponies, or troopers out here; nor, so far as I can learn, has the disease been noticed in this country. I have frequently

wondered if the primary lameness, *i.e.*, what appeared to be to all outward appearance, Laminitis, was due to the same cause operating upon the os pedis as that producing the enlarged rami, and the subsequent enlargement of the hocks and knees.

Splenic Abscess.

Patient was a colonial horse, ten years old, and had been in the pink of condition for the last two years.

Twice between the 29th January and 4th February last he suffered from acute indigestion, the symptoms of which lasted only about two hours on each occasion—having yielded to the administration of Ext. Belladonnae, Ammon. carb. a.a. ʒj, Aloes B. ʒij, and the usual simple measures adopted in camp to obtain comfort and warmth.

On February 5th, though feeding well, he was somewhat dull and depressed, and occasionally gave a gentle kick at the abdomen; his respirations were normal, fæces soft, legs warm, urine slightly high-coloured, tongue slightly furred, the conjunctival membrane was slightly injected and spotted, the pulse 52 per minute and firm. During the next six days his appetite rapidly failed—he had to be coaxed to partake of a little mealie meal and cut grass—his thirst became most inordinate, and loss of condition was most marked. He stood nearly the whole time with his back arched upwards and his head down towards his knees: urine was voided in large quantities, dark and offensive in odour; the expression of the face became anxious and the eyes sunken; respirations were increased, the mucous membranes became yellow and the pulse gradually increased in frequency and weakness. Of fæces, what little passed was light in colour. For the next ten days that he lived there was a most marked disinclination to move or lie down, accompanied by extreme depression, increasing debility and want of appetite.

The head was still kept persistently low, parallel with the limbs, and the neck was arched forwards—the superior muscles of which became very stiff, but not tetanic. His thirst remained to the last insatiable, thus giving me a chance of keeping up his strength by means of gruel and stimulants; the pulse became thready and weaker daily, the mouth fœtid and clammy,

tongue furred, the conjunctival mucous membrane purple in colour, latterly almost black, and extremities deathly cold. Œdema of the eyelids and lips, followed by swelling of the head and tongue, set in—due, no doubt, to the dependent position of the head—and subsequently blood-stained tears dropped from the almost closed-up eyes, and a thin serous discharge came from the nostrils and mouth. He died in a comatose state on the 22nd of February.

Post-mortem examination revealed the following:—Extreme emaciation and pallor of tissues; incision of swelling of head showed effusion of serum and enlargement of submaxillary lymphatic glands. The stomach contained about half a pound of grass, some mealie meal, and about a gallon of fluid of a fœtid odour; on its greater curvature was a high-coloured thickening, the centre of which presented a small orifice less than half an inch in diameter with raised florid edge, and protruding through this opening were some shreds of fœtid tissue.

The Spleen:—Substance pale, hard, and atrophied. The lower third was adherent to the stomach and bulged considerably, and section of this part revealed a large sacculated abscess, a diverticulum of which communicated with the fistulous opening in the stomach above mentioned. In size it was five by two and a half inches, and its walls were composed of strong fibrous tissue, hyperæmic in colour, enclosing nearly half a pint of fœtid, caseous pus, and a stringy mass of fibrous tissue about two and a half by one inch long. The frayed extremity of the latter protruded through the fistula into the stomach.

The duodenum was slightly congested.

The liver, smaller than usual, was covered with small grey spots. On section the knife grated, and the substance was hard and fibrous.

The left kidney was extensively atrophied, pale and hard; whereas the right one was enlarged, soft, and vascular.

Heart:—In both right and left cavities were large *ante-mortem* clots, comparatively firm and tenacious, extending for some distance into the aortæ and pulmonary arteries. There was extensive ecchymosis on the endocardium, most marked on the ventricular surface of the mitral and tricuspid valves.

OBSERVATIONS ON SOUNDNESS.

BY R. H. DYER, M.R.C.V.S., LIMERICK.

THE duties of an examiner are of great importance in several ways, inasmuch as he is expected to be thoroughly acquainted with the natural form of the horse and its many diseases, which are found both externally and internally; and he should know something of "action," because some of the structures may be so deformed that the mechanism of certain joints may not act harmoniously, and more particularly when diseased, as is frequently seen in the movements of the hock-joint. Examiners should consider themselves in the same position as judges when presiding in a court to try cases. They ought to act without bias or prejudice, as they are employed to test the soundness of horses, and they are bound to perform their duties in such a manner that both seller and buyer shall be satisfied. It sometimes happens that an examiner possesses a feeling of dislike to a seller, and does his utmost to reject an animal, or he may have a desire to befriend a purchaser, especially if he is a horse-dealer. When such things are effected, it does not redound to the credit of a veterinary surgeon. I have known many instances which have occurred during my experience, to bring discredit upon the profession, simply from the fact that the *principles* of the examiners are defective.

Errors in judgment are not uncommon, but *honesty* of purpose ought to be the leading principle of action, and I would take this opportunity of reminding young practitioners that their first aim should be, not only to establish a name for *competency*, but that they should study to prove that their *intentions* are *honourable*, and that they will not pander to the wishes of men interested in cases.

It may serve a good purpose if I relate two or three cases which have fallen under my notice. It is generally known that most horses sold in Ireland are examined at the time of purchase, as warranties are not customary, and many animals are taken to fairs, sold, and examined there, and veterinary surgeons are always to be found in attendance to perform those duties.

Whether examinations can be conducted with the same precision as when performed at an establishment, I will pass by for the present. The first case I shall relate is that of a horse which belonged to a client of mine. The animal was sent to a fair to be sold. The owner sold him to a dealer for a large sum of money, and he was examined and rejected. The veterinary surgeon was asked why he rejected the horse? He was told that a bony enlargement could be seen upon one of the legs, and that it felt hot! The horse was brought to me, and the owner stated what has been written. I examined the part, and could not detect abnormal heat, nor was the horse lame, nor the part tender upon pressure. The horse was taken home, and brought to the next fair, about six months after. He was again sold, and the same veterinary surgeon had to examine him. The horse passed sound! The owner inquired why he rejected the horse upon a former occasion. The veterinary surgeon asked if he had previously inspected him. He was told that he did, and pointed to the exostosis as the cause. The veterinary surgeon said that was of no consequence! This caused a very bad impression upon the mind of the owner of the horse.

Another case was as follows:—A man sold a five-year-old horse to another, and it was examined by a veterinary surgeon at his establishment, who pronounced the animal to be four years only; consequently the purchase was not concluded. The seller felt confident that his horse was as old as described, and he submitted him to a practitioner for examination. He certified for five years. This did not satisfy the first man. The owner then obtained from the breeder the date of foaling, and took it to the veterinary surgeon. This met with the same result, viz., *unbelief*. The first examiner suggested that two other members of the profession should give their opinions; these gentlemen were non-resident—they certified for five years. This failed to satisfy. The seller then demanded his costs, which the veterinary surgeon promised to pay him. He refused. A civil bill was the next document handed to the veterinary surgeon who had declared for four years old, and the case was heard in court. The plaintiff was examined and made out his claim. Defendant was also examined, and his *fencing* and *evasive answering* so

disturbed the judge, that a decree was granted for the sum claimed, and he was told to go about his business. It need not be stated that this was an unfortunate piece of work, because it not only caused the veterinary surgeon to be suspected of unfair play, but he pitted his own opinion against two men of much experience. Had the veterinary surgeon been properly advised he would have quietly paid the costs, and it would not have gone before the public. When a horse is brought to an establishment for examination, he should be placed in a stall and tied so loosely that he can reach the manger. This is done for the purpose of watching as to crib-biting, or wind-sucking, or weaving propensities. Not that a veterinary surgeon should be held responsible for the two former, as it is known that some horses will remain for hours in a strange stable without crib-biting. The veterinary surgeon should, if possible, have charge of the horse for two hours after any length of journey, and for one hour under any circumstances; but at busy times, such as upon fair-days, no seller will consent to lose so much time, so that we must do the best we can. When the animal is at rest, and left undisturbed, he will feel at home, and if any disease is present in the legs or feet, or in the respiratory organs, it may be observed by the examiner.

The horse is then brought to the stable door, and the eyes and mouth inspected. The sides of the wall should be blackened opposite the head, so that a proper examination of the eyes may take place. The first thing to note is the size and shape of the globe, as well as the appendages. A front view and a lateral one should be taken, and one's black hat will be found to aid in the examination, if properly managed. The brighter the day the more backward must the horse stand at the door, and *vice-versa*. The nostrils must be strictly scanned. The mouth is then looked at *both* sides.

The horse is now led into the yard, and the examination proceeded with. At this stage it is advisable to allow the horse to stand perfectly still, and look at him as a whole, and observe how he stands; whether his shoulders, knees, and feet are alike, then walk round him and take a view from behind to ascertain if the hips are even, the hocks alike, and so forth.

The first act *with some men* is to make the horse cough, which is a most objectionable practice, unless the horse coughs before he is touched. The head is looked at and felt by the hand, and every portion of the neck on the left side; the wither, shoulder, elbow, knee, and all parts down to the foot should be carefully handled. The foot being held up so as to touch the elbow will give an idea if all is right in the carpal joint. The body, loins, hip, hock, etc., will, of course, be felt and carefully examined, not forgetting to ascertain if the soles and frog are free from disease. The object of making this search is to learn if there is any swelling about the face, enlargement at seat of Poll-Evil, parotid and submaxillary glands. Horses are seldom bled now-a-days, so that impervious vein is not likely to be seen. The withers sometimes show unmistakable sign of injury. The point of the shoulder—over which the skin should be moved easily—should be examined, as in some shoulder lamenesses setons may have been inserted, and will occasionally leave a hardened skin. The knee-joint does not always meet with as much attention as it deserves. The skin surrounding the flexor tendons posteriorly, and that part anteriorly, should be readily moved by the hand, and a good search be made for abnormal growth of any kind or description.

During this proceeding we shall see if any interference has occurred with the shoes, such as speedy-cutting, brushing, etc.; or whether any enlargement exists in any portion of the fetlock-joint, and if the lateral cartilages are healthy, or if there is any indication of disease of the coronet, not forgetting to ascertain if there is any fissure in the hoof at the seat of Sandcrack, and if the frog is healthy. The object of lifting the front foot up to the elbow, is to learn if there be any stiffness in that joint.

This all having been finished, we look to the back and loins to see if any injuries have been inflicted there, such as saddle-galls, etc. If the examiner has not already looked under the abdomen for hernia, now is the time, as when an animal is moved a few steps the hernia is no longer visible. This remark refers only to *scrotal* hernia. Umbilical hernia is not likely to be met with in an animal after a year old, as most, if not all such cases, have been put right at that age.

It is always advisable to have a front foot held up when examining the hind leg, as it keeps it in proper position, and at the same time enables the examiner to perform his work better. The tarsal joint in front, laterally, and posteriorly, should be looked at and handled as named.

Many horses have what is termed coarse hocks, and really appear to be so without disease being present; but all this must be learned by a lengthened experience. In the course of time, the eye and the hand will undergo so much training that it will become easy to judge of such things.

Having finished the examination of the left side, the operator must go to the opposite one, and perform the same ceremony as he did on the left. The groom then leads the horse at a slow trot once or twice for a few yards, or any number, for the purpose of ascertaining if he trots sound. If satisfied, then a saddle is placed upon the back of the horse, and he is cantered or galloped as far and as long as the examiner considers needed. If this appears satisfactory, the front shoes are removed to search for corns, or any other disease there may be. The shoes are then nailed on, the old nail-holes being used, and the horse trotted again as at first. If he goes right he may be certified sound.

There are several matters which have not been mentioned, as the above are the principal points to look into, and any omission will be taken notice of at the proper time.

Editorial.

CRUELTY TO ANIMALS FROM A VETERINARY POINT OF VIEW.

MEMBERS of the veterinary profession would not be true to the trust reposed in them, if they acted as if, or in any way gave countenance to the suspicion that, they were indifferent to the sufferings of animals, so long as their own material interests were served. Nothing could be more disastrous to their reputation as the natural and professional guardians of animals, and nothing, we are confident in asserting, would be further from the truth. Since the title of veterinary surgeon first became recognised in this country, there have never been wanting men who claimed that designation, who nobly and fearlessly stood forward as the champions of animals, and who, while acknowledging that these were destined for man's use, were determined that they should not be subjected to man's abuse. The earliest of these advocates of the rights of animals was John Lawrence, veterinary surgeon of Birmingham, who, in a work, now very scarce, entitled, "A Philosophical and Practical Treatise on Horses, and of the Moral Duties of Man towards the Brute Creation," and published in 1796, eloquently exposed the cruelties perpetrated on the domestic creatures, and strenuously urged the necessity of legal protection for them in the chapter, "On the Rights of Beasts." "It is but too easy to demonstrate," he states, "by a series of melancholy facts, that brute creatures are not yet, in the contemplation of any people, reckoned within the scheme of general justice—that they reap only the benefit of a partial and inefficacious kind of compassion. Yet it is easy to prove, by analogies drawn from our own, that they also have souls; and perfectly consistent with reason to infer a gradation of intellect, from the spark which animates the most minute mortal exiquity, up to the sum of infinite intelligence, or the general soul of the universe. By a recurrence to principles, it will appear that life, intelligence, and feeling, necessarily imply rights. Justice, in which is included mercy or compassion, obviously refers to sense and feeling. Now, is the essence of justice divisible? Can there be one kind of justice for men, and another for brutes? Or is feeling in them a different thing to what it is in ourselves? . . . . If you deny unto beasts their rights, and abandon them to the simple discretion of man, in all cases without remedy, you defraud them of those benefits and advantages acceded to them by Nature herself, and commit a heinous trespass against her positive ordinances, as founded on natural justice. You deprive them, in a great measure, even of compassion. . . . They (the rights of animals) arise, then, spontaneously from the conscience or sense of moral obligation in man, who is indispensably bound to bestow upon animals, in return for the benefit he derives from their services, good and sufficient nourishment, comfortable shelter, and merciful treatment; to commit no wanton outrage upon their feelings whilst alive, and to put them to the speediest and least painful death when it shall be

necessary to deprive them of life. It is a lamentable truth that the breach of these obligations has ever been attended with impunity here. . . . . The grand source of the unmerited and superfluous misery of beasts exists, in my opinion, in a defect in the constitution of all communities. No human government, I believe, has ever recognised the *jus animalium*, which surely ought to form a part of the jurisprudence of every system, founded on the principles of justice and humanity. . . . Experience plainly demonstrates the inefficacy of mere morality to prevent aggression, and the necessity of coercive laws for the security of rights. I therefore propose that the rights of beasts be formally acknowledged by the State, and that a law be framed upon that principle, to guard and protect them from acts of flagrant and wanton cruelty, whether committed by their owners or others. . . . *The general blind and stupid adherence to custom* renders it absolutely necessary for a writer on this subject, who desires to render effectual service to the cause of humanity, to enter into particular and disgusting details, to point out individual and specific acts of cruelty, such as are, or have been, in his time most prevalent."

Lawrence penned his chapter many years before the legislature passed a law for the protection of animals, or even before this subject had become sufficiently popularised that any one who discussed it could escape ridicule and abuse. He expected these in return for his powerful pleading, for he says, "I will look down with the calmest indifference upon all such animadversions as are the result of precipitant thinking or interested sophistry." A worthy successor to Lawrence was Youatt, who, in all his writings, but more especially in his book on "The Obligation and Extent of Humanity to Brutes," published in 1839, never failed to show that the veterinary surgeon should be the professional and reliable friend to dumb creatures. And when the Royal Society for the Prevention of Cruelty to Animals was founded, and during its operations up to to-day, members of the profession, recognising its great task and humanizing influence, have lent it their aid by advice and personal support. It is no mawkish sentimentality that impels veterinary surgeons to protest against the wrongs to which animals are subjected, or to take an active part in prosecuting those who are guilty of wanton cruelty. On the contrary, they are only fulfilling the most sacred part of their duty, in protecting or relieving animals from pain, discomfort, or distress. Though there may be individual members whose views are not in accord with those of Lawrence, Youatt, and the other advocates of humanity, and who repel all interference on behalf of suffering beasts, because this interference my infringe upon their personal interests, yet the great majority of the profession repudiate selfish motives, and shape their course so as to guide public opinion. As evidence of this, it will be remembered that at the British National Veterinary Congress held in London in 1881, the subject of cruelty to animals was brought forward in an excellent paper prepared by Mr. Hunting, and the discussion fully maintained the reputation of the profession in this country as that of a body opposed to cruelty in every form, whether for fashion, pecuniary gain, ignorance, or the gratification of a brutal

feeling. But as the subject was too wide to be exhaustively dealt with at the meeting, a committee was appointed to deal with it deliberately and conclusively, and its report having now been completed, is appended. From this it will be seen that the views of the profession, as a body, are clear and definite, and that the public declaration made in it must command acceptance by every one who is not fettered by the most sordid motives or animated by a cruel nature. We heartily endorse these views, and will do our utmost to carry them into effect, receiving, as they do, our warmest sympathy, and more especially the opinion expressed with regard to the mutilations of "nicking" and "docking," the last of which, we are sorry to observe, receives the countenance and manual support of some members of the profession as a *fashionable* operation. It must not be forgotten that veterinary surgeons are not above or beyond the law which controls the conduct of persons towards animals, and that cruelty perpetrated by non-professional persons is no less cruelty when inflicted by professional men. No one can be licensed to perform cruel operations, and the amount of cruelty cannot be measured by the extent of an operation.

Therefore it is that we hail this professional declaration, which comes at a very opportune moment, when the public are beginning to doubt whether veterinary surgeons fully comprehended their position with regard to cruelty to animals, and whether they were not sacrificing much in order to favour horse-dealers, horse-commission agents, and some "sporting" people. At least this we may infer from the following extract from a contemporary who has the welfare of veterinary medicine at heart. In treating of a specified cruel operation, it says :—

"We invite veterinarians seriously to consider the responsibility resting on them when opposing the dictates of civilisation. Why should they be disloyal to their holy calling—the alleviation of suffering, and the prevention of disease—in order to serve the temporary gain of popularity with clients? Is it not unworthy of medical science, and a prostitution of medical capacity, to justify painful operations on horses, for instance, solely because fashion asks that these may be done? Is it honourable to veterinarians to become tail-choppers? Has not everybody whose good feeling and intelligence are worthy of their consideration and regard, tried to raise their profession above the degradation of 'horse-leeches'? Are men who have passed through a learned education content to descend to the level of copers or gelders? Is it their mission to stand as sponsors for 'swells' or 'mashers,' in every senseless whim that caprice or dandyism may suggest? Should scientists crop the ears of terriers, or amputate the tails of horses, according to the demands of fashion, with no regard to science or to the interests of the animals themselves? Is their humane avocation, based on knowledge and progress, to be made subservient to mere money-getting? Are they really going to abdicate in favour of the almighty dollar? For very shame, we hope not; and yet, what but this are they doing, before an astonished public, who are watching their proceedings relating to docking?"

The following is the report alluded to :—

Report of a Committee appointed by the British National Veterinary Congress for the purpose of further considering the subject of cruelty to animals from a veterinary point of view, and publishing a declaration in the name of the Congress on certain practices and painful operations relating to and performed on animals—namely, whether such practices and operations are sometimes necessary, and if so, under what modifications or qualifications they may be performed; or whether they are unnecessary, and therefore cruel :—

In the main we corroborate Mr. Hunting's excellent paper on "Cruelty to Animals."

As, however, it was thought desirable by the Congress to appoint us a Committee to make a public declaration in the name of the profession there and then assembled, on the subjects referred to in that paper, we purpose treating each matter separately and briefly, in order that a code may be formed to guide the public on the points respectively raised.

LAMENESS may be painless or painful. Those cases where the lameness passes off with exercise are, *prima facie*, cases being accompanied by pain—this specially applies to cases of navicular disease and spavin. In such cases horses ought not to be worked, and when worked it is cruelty.

GINGERING is decided cruelty.

WOUNDS are not causes of unfitness for work, unless pressed upon by harness, or affected by the movements of the animal.

TWITCHING.—The practice called "twitching" causes acute pain, and is frequently unjustifiable, especially when a twitch is used by stablemen and others in charge of horses.

BURNING GUMS for "Lampas" is cruelty.

KNOCKING OUT WOLF-TEETH is cruelty.

EXTRACTING TEMPORARY TEETH, save for surgical reasons, is cruelty.

DOCKING AND NICKING HORSES are cruel operations when done for fashion, and not to remove malformations, or cure disease.

DOCKING SHEEP under well-known conditions is a necessary operation.

MARKING AND BRANDING animals, when necessary, should be performed by the quickest and least painful method.

WORMING THE TAIL, DOCKING, AND CROPPING THE EARS OF DOGS are unnecessary, and therefore cruel operations, when not performed to remove malformations or cure disease.

CASTRATION of male animals is necessary, but should be performed in the least painful manner, and by a skilled operator.

SPAYING of female animals is unnecessary, and ought to be abolished.

PARTURITION.—Unnecessary pain is often inflicted by ignorant persons when attempting to deliver the young by forcible and cruel means. A skilled and experienced veterinary surgeon should always be called in to render assistance in difficult cases.

OPERATIONS of various kinds are frequently performed on animals by ignorant persons, and much cruelty is caused thereby, which ought to be publicly deprecated and prevented by law. All painful operations not required for the good of the animal operated on are of a cruel nature. No operation causing pain to an animal should be performed by an unskilful person. All necessary operations ought to be performed in a scientific manner, and by the most humane methods, in order thereby to prevent the infliction of unnecessary pain.

(Signed) WILLIAM BROUGHTON, F.R.V.C.S., Leeds.
P. S. COWAN, M.R.C.V.S., Colchester.
JOHN H. FERGUSON, M.R.C.V.S., Leeds.
WM. HUNTING, F.R.V.C.S., London.
CHAS. MOIR, M.R.C.V.S., Cardiff.
C. STEPHENSON, F.R.V.C.S., Newcastle-on-Tyne.
GEO. A. BANHAM, Hon. Sec. to the Committee.

PASTEUR'S RESEARCHES IN RABIES CANINA.

M. PASTEUR, who, for the last four years, has been engaged upon experiments in relation to canine madness, on May 20th communicated the results of his labours to the Académie des Sciences. M. Pasteur began by recounting the facts established by his experiments. They are in substance as follow :—

"If the virus of rabies be transmitted from the dog to the monkey, and then from monkey to monkey, it will be found that after each transmission the virulence of the virus has become enfeebled. If the virus thus enfeebled be re-transmitted to a dog, or an animal of that species, it will remain still attenuated. By a few transmissions of the virus from monkey to monkey,

there can easily be obtained a virus so attenuated as shall never communicate, by hypodermic inoculations, the disease to a dog. Inoculations by trepanning of such virus will likewise produce no result; but an animal will, notwithstanding, be rendered thereby proof against the disease. The virulence of the virus becomes, on the contrary, augmented in its passage from rabbit to rabbit. If a dog be inoculated with virus thus augmented in power, a far more intense form of the disease will be manifested than that apparent in ordinary canine madness, and it will invariably prove fatal."

By applying these and other observations, M. Pasteur obtained virus of different degrees of virulence, and succeeded, by inoculations of the milder qualities, in preserving animals from the effects of more active and mortal kinds. For example, after several days longer than the shortest incubation period, M. Pasteur extracted virus from the head of a rabbit which had died of the disease, and inoculated successively two other rabbits. Each time a dog was inoculated with the virus, which, as has been seen, would increase each time in virulence. The result was that the dog was ultimately rendered capable of resisting a virus of deadly strength, and became absolutely proof against canine virus. M. Pasteur anticipates that the time is still distant when canine madness will be extinguished by vaccination, but pending that consummation, he feels pretty certain that he will be able to avert the consequences of a bite from a mad dog. He says :—"Thanks to the duration of incubation after a bite, I have every reason to believe that patients can be rendered insusceptible before the mortal malady has had time to declare itself." M. Pasteur stated, in conclusion, that he had solicited the Minister of Education to appoint a Commission to test his experiments. He added :—

"The principal experiment that I shall attempt, will consist in taking from my kennels twenty dogs insusceptible to the disease, and placing the same in comparison with twenty ordinary dogs. I shall then have all these forty dogs bitten by a number of dogs in a rabid state. If the facts that I have enunciated are exact, the twenty dogs that I believe to be proof against the disease will remain healthy, while the other twenty will become affected. For a second experiment no less decisive, I propose to place before the Commission twenty inoculated and twenty non-inoculated dogs. All the forty I shall then inoculate in the most vascular parts with virus taken from a rabid dog. The twenty inoculated dogs will resist, and the other twenty will all die of madness, either paralytic or furious."

EVERY-DAY MATTERS IN AN INDIAN MILITARY VETERINARY PRACTICE.

II.—Bovine Pathology, etc.

BY J. H. STEEL, M.R.C.V.S., A.V.D., IN VETERINARY CHARGE, R.A., H.S.F. SECUNDERABAD (1882-3).

To the Army practitioner who has served only at home, it will, at first sight, seem strange that an officer of the A.V.D. should be in a position to make observations in Bovine Pathology. So, in the first place, I must explain that in India it is certain that the ox is of more value than the horse, being much more useful in trade, and not inferior in value for military purposes. On the bullocks of an Indian army (especially one in the Madras presidency) falls the work of transport, of moving the guns of heavy field-batteries and siege-trains, and of conveyance of supplies; also the second line of waggons in light field-batteries is drawn by bullocks. Agriculture, trade, and war in Southern India depend on bullocks, and to meet these and

other requirements there are several valuable breeds available. First in value come the beautiful draught bullocks of the AMRUT MAHAL, in Mysore, to which the enlightened and warlike sultans, Tippoo and Hyder Ali, devoted special care and attention, with a view to their use in artillery work. A full description of them is to be found in our *Quarterly Journal*, but suffice it here to say that they are large (*occasionally*, it is said, attaining seventeen hands from the top of the hump) as compared with the ordinary country cattle, but smaller than animals of the Nellore, Hissar, or Guzerat breeds. Also, they are particularly light in the limbs, and with beautifully clean tendons of the legs, like those of a well-bred horse. They have a large well-developed barrel, enormous, generally straightish, horns, beautifully clear, prominent eyes, and convex foreheads. The skin is soft and delicate, the slate colour predominating, and red being found only in inferior strains. The prominence of the larmier or tear-pit has given rise to a legend among the natives, that the pure Amrut Mahals derive some of their blood from a stag. There is a particularly bright and intelligent look about these animals; they are as a rule timid, especially at the sight of an European, but occasionally prove very decidedly aggressive and most difficult to handle. Their special value consists in their trotting powers. Some of them will rival a good trotting horse in pace—indeed, reports of distances covered by them are often scarcely credible. The smaller of these animals are sent to the transport for pack work, the heavier for artillery draught, the ordinary animals being devoted to transport. Numbers are disposed of as "weeds" from the breeding establishment, and prove a great boon to the Mysore country, much in the way the "stud-weeds" used to be to horse-owners before studs were suppressed. One can't help, in dealing with these neat, nicely-kept bullocks, feeling as careful and proud of them as of a charge consisting only of horses—indeed, the officers of transport and heavy field batteries take great pride in their bullocks, and those in the batteries are probably the most luxuriously kept and best tended bullocks in the world, being groomed twice a day, fed on grain, regularly used and exercised, tended systematically in health and disease, like army horses, or like cows in a well-kept dairy establishment in England. During two long marches, veterinary charge of transport during the late Camp of Exercise (1884), and of 4/1 Welsh Division Heavy Field Battery for two years, I have had opportunities of observing the Amrut Mahal bullock at various kinds of work, and of becoming well aware of his many excellent qualities. After him comes the NELLORE bullock, the heavy draught beast of this country, used by the Hyderabad Contingent for draught of the second line of waggons. They are fine upstanding animals, much larger than those previously described, and of much more massive build and imposing front. With enormous dewlaps, legs proportionately short, horns also smaller and shorter. They are strong, and sometimes trot fairly well, but are most useful for prolonged slow work. The Nellore cows are excellent milkers, and the influence of the breed is perceptible from the centre, whence it derives its name, far into the Mysore country. Indeed, the strength of the Nellore bullock renders him most useful for ploughing work on the heavy black cotton soil about the Kistna, and especially useful for the purposes of the agriculturist, as, being rather slow in movement, he is less appreciated for trade and Army transport. As I have had but little experience of the other pure Madras breeds (of which there are several), I will here simply mention that all through the Presidency very *small trotting bullocks* are used in very light carts by natives, and such a "turn-out" is very common in and about Madras. It is wonderful what an amount of work is done by these tiny animals, which, I believe, are obtained most extensively in the Salem district.

BUFFALOES are also available for Army transport, whether pack or draught, in case of necessity. They are huge-framed, somewhat sluggish brutes, who make little of ordinary bullock loads. They are not pleasant to look at, but supply valuable milk, and are more useful even than bullocks for ploughing on heavy land, and especially rice fields and other wet cultivation. This latter work suits them well, for they prefer to frequent places more than knee-deep in mud during the heat of the day. "Wall eye," or piebald eye, is very frequent among them, and adds to their already fierce and weird appearance, but they are generally timid rather than ferocious. At the Breeding Farm of H.H. the Nizam, Rajampett, some thirty miles from Hyderabad, Ali Abdoolah, the Superintendent of Breeding operations, showed me some most interesting hybrids between the buffalo and bison, in which the general shape and colour of the buffalo was curiously blended with the ludicrous prominence of the forehead and peculiar-shaped horns of the bison. *Aden and English cows* for dairy purposes are making their way in this Presidency, but the main supply of milk is from buffalo cows, small country cows, and frequently we see some large milch cows of very good shape for dairy purposes. I have noticed that in these latter not unfrequently the HORNS are loose, and shake about when the animal moves; this depends on the absorption of the bony matter of the core at its root, the main part of this bony process continuing attached to the skull only by a fibrous band. Here, then, we have a breed or highly developed individual milch cows almost polled. The observation is curious in its bearings on the question of artificial selection. While speaking of horns, I may allude to the fact, that as the large horns of the Amrut cattle are generally fairly straight, we seldom have to deal with *ingrowing point of the horn*, so common among cattle at home. However, a short time ago I had to treat an animal in which this defect led to impediment to mastication, and abrasion of the cheek, until the offending point was amputated. Although the horns are so stout, they frequently become *fractured* in consequence of the bullocks fighting with one another. Thus amputation of the horn becomes necessary. I had to do with a case of this kind a short time ago, and tried to save the horn by binding it up with splints, but found it necessary ultimately to amputate well below the extent of inflammation of the living membrane of the horn core. The progress of the case was interesting. I dressed it with tar and tow, fixed in position by a piece of bandage cloth and tape, and absolutely no inflammation set in, but also no efforts of nature to block up the opening, through which air rushed at every respiratory movement. I ultimately, at the end of several months, gave up the prospect of closure as a bad job, and had a leather cap made for the end of the amputated horn. In these cattle we sometimes see an *eczematous eruption around the base of the horn* of somewhat an obstinate character, the result in most cases of irritation from the nose-rope, which is apt to become dirty and hard, also to be dragged most unmercifully, or sometimes with necessary severity. Removal of the cause is scarcely practicable, for the bovine pathologist who seizes the nostrils of an Amrut bullock, with the *Sec. Art.* "bulldog" grasp, will, if I may judge from my own experience, not care to do so again! The nose-rope (*natch* or *natti*) must be seized by gradually drawing short the main tying rope (*cowar*). The nose-rope runs from the perforation through the septum narium, and is fastened behind the roots of the horns. The tying rope must be loosened and jerked to behind the horn, then its point of attachment to the nath drawn down to the nostril, which can thus be raised.

Thus the natti is too valuable to be removed, so treatment of the eczema must consist simply in lubricating the rope with carbolic oil. Keeping it clean, and avoiding unnecessary dragging at it. Occasionally a sort of *Quittor of the horn*, if I may it call so, has to be dealt with. One soon learns that it

is no easy matter to diagnose disease or injury in these Indian bullocks. On the approach of an European they too frequently snort defiance and utterly refuse to be handled. They strike forward with the hind feet, too, in front of the shoulder, so as to render exploration of the fore limb a dangerous matter, and have also a nasty trick of bounding straight forward with irresistible force. Auscultatory exploration of the chest is all but impossible, unless the animal be thrown and secured ; whoever approaches the back part of the animal to examine a hind limb, to obtain thermometric or pulse records, or otherwise to make observations, retires *re non effecta.* Altogether we are thrown back upon the more ancient and less exact means of diagnosis, state of excreta, general appearance, behaviour, etc., and when recently treating a shorthorn bull, who, like he rest of us exotics (European men, waler horses, and so on), was "feeling his liver," I could not help remarking how well behaved and what a thorough "gentleman" he was, as contrasted with the native cattle. It was quite a treat to have an opportunity of adopting exact diagnostic means in cattle practice. This difficulty of diagnosis must prove a very serious obstacle to efficient performance of duties by cattle inspectors in this country, for which due allowance must be made, and their diagnosis as to the nature of disease present be accepted with reserve, unless confirmed by *post-mortem* examination. The only specific affection among Government bullocks with which I have had to do was an outbreak of Foot-and-mouth Disease in the Heavy Field Battery ; in connection with which I made the following observations, which may prove of some interest to the reader :—

(1) There is no essential difference between Foot-and-mouth Disease in India and at home.

(2) Natives of India, when carefully supervised, make excellent veterinary hospital dressers.

(3) Segregation to 100 yards amply suffices to prevent spread of the disorder.

(4) The disease would suffice to put a Heavy Battery temporarily *hors de combat,* although not likely to prove fatal, nor even to present serious complications among the bullocks which are adults of good constitution and with fair disease-resisting power.

I have ample evidence to prove that Foot-and-mouth Disease prevails very extensively in and about Secunderabad. It is a constant source of apprehension to the Transport authorities. The Indian cattle inspection returns show a *mortality* of about 30% from this affection, which at first sight seems incredible ! But when we come to consider the extraordinary vicissitudes of the life of cattle in India, that they all but die of drought and starvation during the summer, and succumb in large numbers to excessive indulgence in green food during the rains—when we consider also the superstitious apathy of cattle owners, the complete neglect of nourishment of the sick, and the manner in which the village cattle are huddled together, healthy and diseased, in the owners' unhealthy residences for the night, and allowed to intermingle with other herds roaming far and wide in the vain hope of finding enough food during the day, we cannot be surprised at greater virulence of communicable disease in this country than in England. Again, I think it has been clearly proved that all specific affections are more virulent in the tropics than in temperate climes. Also, we must make some allowance for inaccurate diagnosis ; for the civil veterinary authorities have by no means perfect executive subordinates. Thus, also, *Cow-pox* is said to cause extensive fatality out here. The authorities just mentioned do a wonderful amount of work, considering the inadequate means at their disposal, but what with obscurity of diagnosis, the necessity of relying on police information, want of uniformity in local names of diseases, and the "thousand-and-one" other difficulties with

which our civil veterinary officers have to contend, we *cannot* possibly at present have a perfect sanitary veterinary system in India; but we can begin the work of that system by showing Government the enormous prevalence of disease, and the necessity of some organization to expose this prevalence and adopt measures which, in time, will materially diminish this serious drain on the resources of the country.

(*To be continued.*)

YELLOW FEVER IN CATTLE IN SICILY.

THE Veterinary Professor Chicoli has drawn attention to a nosologic fact which, with regard to its consequences, deserves attention. It is not the first time that the announcement of the appearance of Yellow Fever in cattle has startled veterinary surgeons on the Continent, but hitherto the report has been received with hesitation. Professor Chicoli states that a disease has been prevalent among bovines in Sicily for some time, which, by its form, evolution, and termination, appears to him to be similar to the malady which decimates the human species in South America, and which has been imported into Spain.

It has prevailed in Sicily for five or six years, attacking chiefly the cattle which are always out at pasture. The province of Palermo has been especially visited by it, and the first case, so far as the Professor could ascertain, appeared in the district of Sambuca. The Syndic had prohibited the sale of the flesh of animals which had been affected. From this centre the malady had gradually extended to the neighbouring communes.

The advent of the disease has always coincided with the extreme summer heat, when the dried-up pastures afforded only a scanty alimentation, and the streams furnished nothing but a little muddy water.

The disease commences suddenly, and without any appreciable premonitory signs. Age, sex, or condition does not appear to exercise any influence on the development, course, or termination of this Yellow Fever. Bulls and cows, young and old, all are attacked indiscriminately, though working cattle are most liable.

The disorder commences with shiverings, but these are not always observed. There is a complete loss of appetite, and the animal does not care to move; the head is carried as low as the knees; the respiration is quickened, but not in proportion to the gravity of the malady; the limbs are cold; pulse slow and depressed, sometimes intermittent, and the temperature is between 38° and 39° (Cent.)

The symptoms become very rapidly aggravated. In a few hours from the commencement of the disease the eyes are sunk in the orbits, and the conjunctivæ assume an icteric tint, deepening in intensity every moment. Sometimes there are indications of colic, more or less severe, but these are not constant; they are accompanied by diarrhœa or dysentery, with dark-coloured evacuations streaked with blood, indicating intestinal hæmorrhage. The pulse becomes slower, all the mucous membranes assume a chrome-yellow hue, as well as the skin of the mammæ, scrotum, and all the other parts where it is fine, and almost hairless.

Finally, the animal, utterly prostrate, falls to the ground; the circulation becomes tumultuous, respiration dyspnœic, surface temperature markedly diminished, convulsions ensue, and death soon takes place.

The disease does not always pursue the course just described, as it is sometimes altogether crushing. The shiverings and colic may be absent; and sometimes there is an abundant evacuation of reddish, sanguinolent urine, with a discharge of yellow-coloured, viscid tears. In fact, three symptoms only

are constant: diminution of peripheric temperature, yellow tint of the mucous membranes, and intestinal hæmorrhage.

With regard to the duration of the disease, sometimes this is extremely brief; usually it is only a few hours, and exceptionally the animals may linger for two or three days. Whatever may be the type of the disease, it has always a fatal termination.

The malady might be confounded with ordinary Icterus, or the Remittent Bilious Fever of tropical countries; but the symptoms described, the rapid progress of the malady, its invariably fatal termination, and the characteristic lesions (to be presently mentioned) should distinguish it from the former; while, with regard to Bilious Fever, the intermittent nature of this should differentiate it. It is only, therefore, to the Yellow Fever of the human species that the affection which decimates the cattle of Palermo can be assimilated; and if there is any distinction between the two maladies with regard to mortality, it must not be forgotten that its being constantly fatal to bovines is explained by the fact, that when a contagious disease is introduced into a country it is incomparably more serious than when it is acclimatised.

As when, during life, accessory phenomena are observed in addition to those which are constant, and constitute the essence of the malady, so at the autopsies there are sometimes observed accessory lesions, besides others which are constant.

A marked feature on removing the skin of an animal which has died from the disease, is the yellow hue of the subcutaneous connective tissue, while the muscles have a reddish-brown tint, sometimes almost black. On opening the abdominal cavity there escapes a considerable quantity of citron-coloured serosity, containing shreds of albumen, though this is not constant; but that which is never absent, is the very marked chrome-yellow hue of the adipose tissue around the kidneys and in the great omentum.

The stomachs are healthy, though sometimes congested; the intestinal mucous membrane is sometimes congested, and the contents of the tube are dark-coloured and sanguinolent. The spleen shows nothing abnormal, except that its tissue is, perhaps, more friable than usual, and the same may be said of the liver, though it sometimes has a generalised or partial yellowish tint.

In the thoracic cavity there is generally a quantity of yellow fluid, and the larger bronchial tubes at the base of the trachea are full of a yellow mucus, streaked with blood. The heart is flaccid and empty, and the fat around it is yellow. In the brain the intra-ventricular fluid is also citron-coloured.

In the blood are found the most marked and most constant alterations. That in the aorta has a dark violet tint, the consistence of syrup, and it has entirely lost the property of coagulation. Exposed to the air, the contact of the oxygen does not restore to it the red tint of arterial blood, and in this respect it is as blood which has been acted upon by carbonic acid. When standing in a vessel for some time, it does not separate into clot and serum, but remains in a state *bouillie*, which rapidly putrefies. A chemical analysis has not been made of it; but on microscopical examination there is remarked a diminution in the red corpuscles and an increase in the leucocytes, though no microphytes had been discovered. The fat globules were very numerous, yellow, and swollen.

Chicoli concludes that the intimate nature of the malady consists in an isomeric modification of the anatomical elements of the blood, the yellow coloration being the result of loss of water, the gases, and the salts normally combined with the albumin.

The causes of this bovine Yellow Fever in Sicily are supposed to be the miasmata from the marshes, and the use of muddy water, containing putrid animal and vegetable substances.

It was not possible to decide whether the disease is contagious from one animal to another, as the observations made in this direction were contradictory. For instance, one animal has died in a herd, and all the others have escaped; while in other cases they have perished one after another in great numbers. The malady could not be conveyed to dogs by feeding them with the flesh of cattle which had succumbed to the disease.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

ANNUAL GENERAL MEETING, HELD MAY 5TH, 1884.

Dr. FLEMING, President, in the chair.

Present:—Messrs. Thomas Greaves, F. W. Wragg, James Lambert, William Robertson, William Wilson, George Gray, J. G. Parr, Wm. Alston Edgar, George Jas. Gould, Nicholson Almond, H. R. Perrins, William D. Bland, G. Digby Whitfield, Alfred J. Owles, Edward Coleman Dray, L. D. Moutray, James Rowe, W. S. Wallis, Jos. Mackinder, Ben. H. Russell, Wm. H. Coates, M. E. Naylor, H. Lawrence, T. H. Lewis, J. S. Price, J. Vaughan, W. Helmore, B. Cartledge, Jas. McCall, Wm. Williams, Henry Dyer, J. Fraser, J. D. Barford, C. C. Sanderson, Osborn Hills, Thomas Aubrey, M. Hack, J. C. Bonnett, Fred. Harvey, G. Wilfred Haydon, Sir F. W. Fitzwygram, Fredk. G. Samson, M. J. Harpley, Thos. A. Dollar, Edwd. S. Shave, W. A. Taylor, Peter Taylor, Thos. Moore, Jas. F. Simpson, Jas. Hall Brown, Thomas Briggs, Wm. Mole, G. H. Evans, G. R. Dudgeon, A. C. Trench, T. G. Hewitt, Wm. Woods, junr., Wm. J. Welsby, Arthur Broad, Joseph Woodger, Jas. Broad, Geo. A. Lepper, Walter Geo. Boswell, W. Reekie, W. Stanford Harrison, John Reynolds, William Pritchard, William Hunting, Charles Sheather, Harry Olver, Geo. A. Banham, H. Durant Gibbings, Alex. B. Daniel, H. J. Cartwright, W. Franklin, S. Woof, H. L. Simpson.

The SECRETARY read the notice convening the meeting, also the minutes of the last annual meeting, which were confirmed.

Election of Council.

The SECRETARY read the report of the Scrutineers, which showed the following names, with the number of votes for each:—

G. Fleming, 826; W. Williams, 802; T. Greaves, 727; J. McCall, 603; Wm. Pritchard, 584; B. Cartledge, 430; G. T. Brown, 368; W. J. Mulvey, 343; G. Morgan, 339; W. G. Schofield, 272; Jas. Lambert, 265; B. H. Russell, 233; J. D. Barford, 164; W. A. Edgar, 134; Wm. Wilson, 77.

The first seven gentlemen were declared duly elected members of the Council, the first six in the place of those retiring, and G. T. Brown in the place of James Collins.

On the motion of Mr. WILSON, seconded by Mr. WALLIS, the report and balance-sheet were taken as read.

Professor WILLIAMS proposed a vote of thanks to the Scrutineers. Mr. DOLLAR seconded the motion, which was unanimously agreed to.

The SECRETARY read a letter from Professor Walley.

On the motion of Mr. WILSON, seconded by Mr. WALLIS, the annual report was received.

Mr. DRAY proposed and Mr. HELMORE seconded the adoption of the report.

Mr. T. S. PRICE called attention to various paragraphs in the report. He considered the Council were mean in only offering the President ten guineas towards his expenses in attending the International Veterinary Congress. When a gentleman was willing to give his time, energy, and talent to the advancement of the veterinary profession, the Council should meet him as liberally as possible and pay every farthing that he was out of pocket. With reference to the Supplemental Charter, he quite agreed with the Council as to the necessity for applying for it, and he was very pleased to think that they had succeeded in raising the examination fees, but he strongly objected to the part of the paragraph which stated that "An application was made to the Privy Council for this Charter, but the sections with regard to increase of examination fees and a period of pupilage were strenuously opposed by the Highland and Agricultural Society of Scotland and the City Corporations of Edinburgh and Glasgow, acting, it is supposed, at the instigation of the Principals of the Scotch veterinary schools." An annual report should not deal with suppositions. If the Principals of the Scotch veterinary colleges did oppose the Charter they had a right to do so, and the statement in the report was calculated to set one class against another. He thought that the sentence which he had read should be expunged from the report, and he would move a resolution to that effect. The paragraph continued: "Opposition to the increase of examination fees was ultimately withdrawn, but that to pupilage could not be removed, as the interest and influence of these powerful Corporations were too great with the Privy Council to allow such a comparatively insignificant and politically unimportant Corporation as your own any chance of success." Those who drew up the report said that the College was such an insignificant and politically unimportant Corporation that they had no chance of success against the opposition of the Scotch colleges. He moved that the words from "Glasgow" to "success" be expunged from the annual report.

Mr. DOLLAR seconded the motion. He expressed his astonishment that such a paragraph should have found its way into the report. All that should be stated in an annual report was the result of the year's working, and the means taken to obtain those results. No argumentative matter ought to be introduced, and nothing calculated to arouse bad feeling, neither ought there to be anything in the shape of Billingsgate. If the first sentence that Mr. Price had objected to was not calculated to stir up strife and ill-feeling, he did not know what was. If it were a fact that the three Principals of the colleges in Scotland opposed the Charter they had a perfect right to do so, and when they succeeded in carrying their point they ought not to be held up to derision and scorn.

Mr. OWLES said the mover and seconder of the amendment had evidently mistaken the application of the sentences. They seemed to think that the political importance of the College was compared with that of the Scotch schools, but the fact was it was compared with the Highland and Agricultural Society of Scotland and the City Corporations of Edinburgh and Glasgow. There was nothing derogatory to the College in saying that it had less political influence than those bodies.

Mr. PRICE said he had refrained from making any further observations, because he thought it better that one thing should be discussed at a time.

The PRESIDENT said in discussions of this kind the speakers ought not to employ words which were derogatory to gentlemen. Such words as "Billingsgate" were not at all necessary.

Mr. DRAY remarked that the proposer of the amendment had accused the Council of meanness towards the President, but he wished to explain that the Council offered him a larger sum for his attendance in Belgium, but he would not accept more than ten guineas.

Mr. PRICE, in drawing attention to the first paragraph of the report relating to the Registration Committee and existing practitioners under the Veterinary Surgeons Act, 1881, said, when the question of the registration of existing practitioners arose the Privy Council did not seem to grasp the subject in a business-like way. A written statement had been sent to the whole of the profession announcing that if certain members of the profession had any particular names that they wished to give testimony about in order to prevent their being placed on the list of existing practitioners they were to send in a statement respecting them. After many members had gone to the trouble of doing that, another letter was sent from the Privy Council stating that the letters they had received were of no avail—that they must be in the form of a statutory declaration. Certain statutory declarations were then sent to the Privy Council by members of the profession, protesting against certain persons being placed on the register. He maintained that if the Privy Council had done its duty, notice would have been given to the members of the profession who had previously been opposed to placing those names upon the register, so that if they thought fit additional evidence might be sent. With regard to the proposed new building for the College and the Field bequest, he found that the Council had not shown that business tact that they ought to have done. It appeared that the Secretary had discovered a suitable site in Brunswick Square, and announced the fact to the Council. The Council thereupon instructed an architect to view the place and draw up plans, but when the plans were brought up it was found that between £5000 and £6000 would be required for the land, and the Council considered they could not afford that. He objected to the Council going to the expense of employing an architect to survey the premises and draw up plans, without first obtaining information as to what the cost of the land would be. It appeared that the College had £6065 13s. 6d. in hand, and he was quite sure that a suitable site could be obtained for £3000. A building might be erected upon it which would cost another £3000, and the money for it might be borrowed at 4 per cent., which would only amount to a rental of £120 per annum, while £100 a year was being paid at the present moment for the premises in Red Lion Square. The attendances of members of Council were given in the report, but it was not stated how many times they ought to have attended, and he suggested that in the next annual report that omission should be supplied. With regard to the balance in hand, £3668 2s. 11d., he wished to ask whether it was requisite to have such a large sum in hand? Why could not some of it be placed to the credit of the building fund, say £2000? Or why should not the £3668 be placed on deposit at the bank, instead of being merely a running account? The examination fees amounted to £1917 6s. 0d., and the examiners' fees and expenses to £1243, leaving a balance of £673. It should be remembered that by raising the students' fees they did not necessarily get an improved class of students. It was no good increasing the fees unless the preliminary examination was raised.

Mr. OWLES congratulated the profession upon having obtained the Supplemental Charter, but as one who had always thought the pupilage clause would have been very advantageous, he regretted that it had not been permitted. The schools would now have the sole responsibility of training the students, both theoretically and practically, so that their clinical instruction would have to be considerably extended. It had been said by those who opposed the pupilage clause that the examiners had the matter in their own hands. To a certain extent they had, but it was impossible in the short time devoted to examinations to ascertain accurately all that a student knew. No doubt, hitherto examiners had felt some delicacy in rejecting students who had not had an opportunity of obtaining practical knowledge, but now the responsibility would rest with the examiners to reject the pupils if they were

not up to the standard, however much they might regret it. The schools would have to find the means of qualifying their pupils. It had been suggested that the members of the Council should be local representatives—that there should be so many for Scotland, so many for Ireland, and so many for other parts of the kingdom. No doubt that proposal at first sight appeared fair and reasonable, but when looked into more particularly, it would seem to be only a sentimental matter. The College was a corporate body, having a duty to perform towards all veterinary surgeons wherever they lived, and had no local interests, except in the cases of colleges. The schools were represented on the Council, but it would be well to criticise the attendances, and see how the school representatives had performed their duties on the Council.

Mr. HUNTING said the members should try and get rid of the mechanical ideas about the election of the Council and the election of examiners. There was a sort of notion that, because a man lived in a certain place, he was more or less fitted for an examiner or a member of the Council. No geographical representation was wanted. Again, the fact of one man having attended five times and another only once was no evidence that the man who attended five times was a better member of Council than the other. As to the Fellowship examination, for one or two years a fair proportion of men came up for it. When he sat for it he felt that the examiners dare not pluck any one at the first two or three examinations, and so he was pretty safe to get through; but the examinations were now very stiff, and no one came up to them except a few army men who had plenty of time to keep up their book knowledge. The result would be that in 1886 no man who was not a Fellow would be allowed to be elected as member of Council except the original members of Council who, by the Act, were declared eligible for re-election, whether they were Fellows or not. He would suggest that, unless the profession wished to be governed by the army as they were once by the schools, the Fellowship examinations should be made more practical. It was of much more importance for a man to know something generally of horses than to give the exact number of cubic feet of air necessary for each horse in a stable. A man might know nothing of mycosis in the ox, and yet be a very good practitioner. The profession had made very rapid strides of late, and it was utterly impossible for men who entered it twenty years ago with a deficient education, to work up for an examination such as that to which candidates for Fellowship were now submitted. With regard to all other matters contained in the report, he congratulated the profession.

Professor WILLIAMS said, so far as he himself was concerned, he could give a flat denial to the statement in the report that the opposition to the Charter was "at the instigation of the Principals of the Scotch veterinary schools." He never instigated the Highland Society to oppose the new Charter. After the matter had been publicly opened by a member of that Society by a speech which was printed in the newspapers, he was consulted about the matter by the Secretary of the Highland Society, and then he did not hesitate to express his opinion against the pupilage clause, as it was well known that he had always been opposed to it. The examinations at the present time proved that pupilage was a mistake, because, as a matter of fact, there were more men rejected who had been pupils than those who had not been. At the last examinations the great majority of those who had been pupils were rejected, while those who had not served as pupils passed the practical examination. Another matter to which he wished to call attention was that last year the examiners received £1243 16s. 9d. There were only nine examiners. The position of an examiner was an honourable one, and the honour itself was almost sufficient compensation to any gentleman who undertook that office. It was high time that the constitution of the

Board of Examiners should be altered. He himself had had the honour of being President of the Council, and had entertained guests at the banquet-table in the City of Edinburgh, and those guests he had paid for. He therefore wanted to know how it was that £50 was charged for the expenses of the last banquet?

Mr. SIMPSON (of Maidenhead) asked if the Council met and received the report prior to its being sent to the printers.

The PRESIDENT said it was not usual to do so.

Mr. SIMPSON said if the statement about the opposition to the Charter being instigated by the Principals of the Scotch schools was merely a supposition it should not have been printed in the report. He did not agree with Mr. Price in condemning the employment of an architect to inspect the site at Brunswick Square, and he thought the Council were perfectly justified in the action they had taken.

Mr. SAMPSON wished for further explanation about the extra £50 for the annual dinner, and suggested that for the future the charge for the dinner should be half a guinea, irrespective of wine.

Mr. TAYLOR said the remarks of Mr. Price and Mr. Dollar would seem to suggest that the Council of the Royal College of Veterinary Surgeons was composed of muffs, but he agreed with Mr. Price that the report should not contain anything which would tend to arouse ill-feeling, for there was even at the present time too much discussion and jealousy among the members of the profession. He considered that as a body of intellectual men they were disgraced by the remarks made by Professor Williams, who had said that the pupils of veterinary surgeons were the worst that entered his college. He would simply ask the members to consider who were the men who occupied the highest position among them. Were they not men who had formerly been pupils of veterinary surgeons? He protested against the remarks which had been made with regard to members of the Council, and thought it would have been much better if they had been thanked for their arduous labours during the past year. The President, who had occupied the chair for four years, had done an immense deal for the profession, and yet fault was now found because £50 had been spent on the annual dinner, part of which was expended in invitations to some of the highest people in the realm. Acting as he had done as Councilman for seven years, he could not quietly submit to the remarks that had been made about the inefficiency of the Council.

The PRESIDENT, in reply to the observations that had been made on the report, said he repudiated the notion that the Council had acted meanly towards him with regard to his attendance at the International Veterinary Congress at Brussels. He was perfectly willing to represent the profession to the best of his ability on all occasions, and the amount which was ultimately allowed him was pressed upon him after he refused the sum that was originally offered. The Congress itself was one of the most successful which had ever been held in Europe, and he believed that the opinions entertained by the veterinary surgeons of the Continent of their colleagues in this country were, on the whole, very favourable. He addressed the Congress two or three times, and was listened to most attentively. He thought it was a matter of very great importance that the Royal College should be represented at that Congress, because England was now the centre of attention, from the fact that this country was endeavouring by legislative measures to suppress maladies which had been a scourge to the civilised world. It would have been a disgrace to the profession if they had not been represented at the Congress. With regard to the paragraph relating to the application for a Charter, it had been repeatedly stated by two Principals of Scotch colleges that they would oppose to the utmost of their ability any attempt to establish pupilage. At

the Privy Council office he was not positively informed, but a hint was given him to the effect that the Corporations alluded to in the paragraph were acting in the interests, and on behalf of the veterinary schools in Scotland. Who informed those Corporations that the interests of the veterinary schools were in danger by the passing of a charter in which pupilage was to be imposed? The Highland Society could not have known it of itself, because the matter had been discussed before the Council and no information about it had appeared in the public prints. At an interview which he had with Lord Carlingford, that nobleman did not disguise the fact of the great political influence of those Corporations, and begged him to try and get their opposition removed, otherwise the Charter could not be granted, so that the allusion to the College as a comparatively feeble Corporation was no reflection upon them as a body. The Corporations of Glasgow and Edinburgh were great Liberal corporations, and their influence in politics was very strong. With regard to the registered practitioners, it would be difficult for any one who had not taken part in it to appreciate the anxiety, the labour, and the time which had been expended by the committee appointed to investigate the different cases. It was the earnest desire of every member of the committee and of the Council, that no one should be registered who could not give a clear proof of his ability. A number of persons were refused, but these had a right of appeal to the Privy Council, and the Privy Council ordered their registration. The Act of Parliament, however, provided that any one who obtained registration under false pretences could be punished. Every care had been taken that none but those who were really eligible should be registered, and if some had been registered who were not eligible, the remedy was in the hands of the profession. With regard to the new building, he did not believe that any one was more anxious for it than himself. For the last five or six years he had rambled about London looking for a site. Their position at 10, Red Lion Square, was a disgrace not only to the profession, but to the country at large. If the whole body of the Council had as strong a desire to get a new building as himself, the matter of money would not prevent the accomplishing their object. If they secured a building and got into it, he had no doubt that many members of the profession who now stood aloof would assist, so far as money was concerned. The last communication received from the Privy Council with regard to this matter, was to the effect that they declined to assist in obtaining a building; still he thought that in a short time the College would be properly housed. The position of the profession in this country entitled it to a respectable dwelling, and until that was obtained he did not think they would make that appearance before the public which they ought to. With regard to the number of Council meetings, he might state that there had been six during the year, as already appeared in the report. It had been said that the number of examiners was nine, but it was twelve. The expenses appeared heavy, but the duties of the examiners were no joke. With regard to the expenses of the last annual dinner, he might say that the Dinner Committee anticipated that the number dining would be about one hundred, but there were only between fifty and sixty present, and the rest, of course, had to be paid for at a reduction. The attendance of members of the Council at the council meetings were extremely irregular, and the work of the Council fell heavily upon those who did attend. During the last three or four years the number of committees had been numerous and the sittings prolonged. He begged the members to elect those who would attend most frequently. It would be seen by the report, that while some members of the Council had rendered the profession a very large amount of service by their frequent attendance, others had never been present. He considered that the profession had been well served by the active members of the Council.

The amendment was put and negatived, nine voting for, and twenty against it.

The adoption of the report was then carried by twenty-four votes against three.

Mr. SAMPSON proposed that the cost of the dinner-tickets should be 10s. 6d., exclusive of wine.

Mr. PRICE seconded the motion.

Mr. SIMPSON (of Maidenhead) moved that the question be left as usual to the Council.

Mr. WHITFIELD seconded the amendment.

Mr. SIMPSON (of Windsor) thought that after what had been said at that meeting, it would be better to leave the matter in the hands of the Council, who would no doubt give effect to the opinions which had been expressed.

Mr. SAMPSON thereupon withdrew his motion.

Professor ROBERTSON said there was a strong feeling amongst a few members of the Council that means ought to be taken to have a larger attendance at the annual dinner.

Mr. HUNTING proposed that while the arrangements should be left as usual to the Council, the meeting was of opinion that the dinner committee would do well not to allow the cost to exceed 10s. 6d., exclusive of wine.

Mr. PRICE seconded the motion.

Mr. Hunting's resolution was then put to the meeting, twenty-four voting for and twenty-six against it.

The resolution was declared lost.

On the motion of Mr. HELMORE, seconded by Mr. WALLIS, a vote of thanks was accorded to the President and officers of the Council, and the proceedings then terminated.

In the evening about fifty members of the profession dined at the First Avenue Hotel, Holborn.

THE MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

A MEETING of the above association was held on the 4th of April, at the Grand Hotel, Birmingham; the President, H. M. Stanley, Esq., Birmingham, in the chair.

The following members were present:—T. Greaves, Esq., Manchester; Messrs. H. Olver, Tamworth; W. Carless, Stafford; B. H. Russell, Grantham; A. Hodgkinson, Hanley; F. Blakeway, Stourbridge; E. Hodgkinson, Uttoxeter; J. M. Parker, Birmingham; R. H. Perrins, Worcester; F. W. Wragg, Whitechapel, London; H. D. Pritchard, H. J. Cartwright, and R. H. Cartwright, Wolverhampton; F. W. Barling, Ross; T. J. Merrick, Northampton; H. Collett, West Bromwich; G. Smith, Tunstall; J. Wiggins, Market Harborough; B. Freer, Uppingham; E. Meek, Walsall; O. J. Hills, Leamington; J. H. Reynolds, Daventry; T. Chambers, Dudley; J. Malcome, Birmingham; A. Bowles, Abergavenny; F. H. Pinkett, Worcester; G. Rossell, Sandiacre; H. Blunt, Lutterworth; W. C. Ison, Atherstone; M. Tailby, Birmingham; A. Over, Rugby; Wm. Dale, Coventry; R. R. Cole, Hinckley; H. Goule, Malvern; E. Price, jun., Birmingham; A. Green, Dudley; R. C. Trigger, Newcastle; and E. Beddard, Wolverhampton, hon. sec.

Among the visitors were Captain C. Boycott Wight, Pendeford Hall; J. Sampson Gamgee, Esq., Birmingham; Dr. Ward, Sparkbrook; R. Wilson, Esq.; Messrs. T. Briggs, Bury, Lancashire; H. A. Powlson, Uttoxeter; C. J. Barnes, Cheadle; J. G. Cross, Shrewsbury; J. Pring, Claverley; T. Horton,

Birmingham ; J. Manley, West Bromwich ; J. W. Hill, Wolverhampton ; and R. J. Smith, Kidderminster.

The SECRETARY read letters of apology for non-attendance from the following members :—

Professor Pritchard, London ; Professor Walley, Edinburgh ; Professor Williams, Edinburgh ; and G. Fleming, Esq., London ; Messrs. H. Goodall, Melton Mowbray ; J. L. Barling, Ross ; J. Coe, Stoke-on-Trent ; T. H. Merrick, Northampton ; A. B. Proctor, Solihull ; L. C. Tipper, Balsall Heath ; and R. G. Verney, Stratford-on-Avon.

The SECRETARY added that he had received thirty letters from members of the profession, stating they were unable to be present, but all agreed that docking, when properly performed, was not a cruel operation.

The SECRETARY read the minutes of the last meeting, which were duly confirmed and signed by the President.

The following letter was read from Professor Walley, with reference to the election of Councilmen.

"E. Beddard, Esq. "Edinburgh, *March 3rd*, 1884.

"Dear Sir,—I learnt incidentally on Friday last, at Newcastle-on-Tyne, that at the Midland Counties Association held some little time since, it was determined to offer no opposition to the return of certain of the retiring members—five names being mentioned. Now as I retire this year, I assume there must be some reason for the action taken by your association in not coupling my name with the other five ; or otherwise the fact of my retiring has been overlooked. I shall be glad to hear from you if I have done anything in any way to offend the members of your Association.—I am, yours very truly, "THOMAS WALLEY."

Mr. BLAKEWAY explained that the reason he did not include Professor Walley with the names of the five retiring Councilmen he proposed at the previous meeting, was because Professor Walley was a vice-president, and he did not know that Professor Walley was likely to be nominated as a member of Council. After speaking of Professor Walley's regular attendance in Council, the ability he brought to bear upon the business brought before them, and the fact of his being an honorary member of this association, he said he should be pleased to see Professor Walley's name added to the five previously proposed. This being the unanimous wish of the meeting, the Secretary was instructed to write to Professor Walley, explaining why his name was omitted, and the unanimous desire of the meeting to support his election.

The SECRETARY read the following letter from Mr. Simpson :—

"93, Peascod Street, Windsor, *April 2nd*, 1884.

"Dear Sir.—I have to acknowledge, with many thanks, your invitation to attend the meeting of the Midland Counties Veterinary Medical Association next Friday, and I am sorry it is quite out of my power to attend. You are doubtless aware I have a motion for discussion by the Council of the Royal College of Veterinary Surgeons. Allow me to call your attention to a letter from myself in the VETERINARY JOURNAL for April. A similar one may be in the *Veterinarian ;* I have not yet seen the last-named journal. In bringing forward my motion, my hands will be materially strengthened by a resolution which, I very much hope, your association will pass, viz., that you approve the motion on docking. I have received from various associations resolutions of approval and sympathy, which I value very much.—Believe me, dear sir, yours very truly, "HENRY L. SIMPSON."

The meeting then proceeded to the election of new members.

On the motion of Mr. MEEK, seconded by Mr. PARKER, Mr. Pitt, of Birmingham, was elected.

Proposed by Mr. HODGKINSON, seconded by Mr. TRIGGER, Mr. C. T. Barnes was elected.

Proposed by Mr. H. J. CARTWRIGHT, seconded Mr. WIGGINS, Mr. J. G. Cross, Shrewsbury, was elected.

A long and most interesting discussion took place upon Mr. Cox's paper on "Parturient Apoplexy," Messrs. Greaves, Blakeway, Russell, Hodgkins, and Wiggins, etc., taking part.

The PRESIDENT then gave his inaugural address, as follows :—

Mr. Vice-President and Gentlemen,—At the last meeting of this, the Midland Counties Veterinary Medical Association, held at Northampton, I had the honour of being elected President for the ensuing year, by which I have to arrange for the subject which is to be brought before your notice at this meeting. I would that it had fallen upon some one more capable of the duties, especially as we have so large an attendance. I will assume that you have all received the printed paper on the subject of docking horses, and therefore introduce the discussion with only a few preliminary remarks, hoping that its importance to the veterinary surgeon and the public generally will be considered sufficient to warrant our having deviated from the usual practice of reading the paper at the meeting, so as to insure more careful thought and remarks.

It is considered necessary that the views of the veterinary surgeons in the Midland Counties, and I wish it could be of all the associations, should be heard previous to the next meeting at the Council of the Royal College, when the subject will then be brought before them. The reason for doing so is that some of our fellow practitioners holding a very high position, both among us and the public, have expressed themselves strongly against it on the ground of cruelty. I am not called upon by my position to express only my personal views, but to ask you one and all to give yours conscientiously, without consideration of side or party, for without this our meeting to-day will benefit neither horse nor man, which to my mind is the object of our gathering. If veterinary surgeons are not among the truest and kindest friends of dumb animals, who are or who should be? And, again, to whom are the public and those in authority to look for assistance to guide them in forming a proper opinion, if it is not those to whom the governing bodies of their own country have entrusted that serious responsibility. With these few remarks I lay the paper before you, written by Mr. E. Stanley for discussion.

The PRESIDENT, in introducing the subject of docking, said that it was considered advisable that it should be brought before the notice of the members of the association, in order that their views be had prior to the next meeting of the Royal College. The reason for doing so was felt to be necessary, inasmuch as the public had expressed themselves strongly against docking horses on the ground of cruelty. He was sure amongst the veterinary surgeons of the country the greatest kindness was shown to dumb animals.

The paper, here introduced, was taken as read.

Mr. President and Gentlemen,—It appears better to take a common-sense view of this subject, and to consider the matter fairly, commencing with—"What is a Tail?" The organ of locomotion in reptiles and aquatic animals, but in mammals we find it dwindled away to a rudimentary appendage, so unimportant to the animal economy that we often find it entirely wanting.

Naturally, then, to be useful, it should be large, as in a snake or eel; a crocodile has a fair-sized one. Is it useful to him? Certainly not out of water, for it makes him very awkward and slow in turning; therefore, we infer his tail is for aquatic locomotion. Reptiles and fishes find this

appendage indispensable. A bird's tail resembles a fish's, because it is required to assist movements in an analogous fluid (although a peacock does not find it so), and, as we approach the higher forms of life, so we find the tail diminishes and disappears, in the same manner as we see the rudimentary digital extremities, called ergots or claws on the fetlocks of cloven-footed animals—cattle, sheep, swine, etc.—and the same in the dog, termed dew-claws or fifth digits (usually amputated in sporting dogs).

To support the view that there is analogy between the tail and these useless remains of former developments no longer requisite to the altered state of the animal. Our old-fashioned rough sheep-dog is actually born without a tail, so in the Manx cat, the bear, the guinea-pig, and many others. The domestic pig's tail often drops off, and, at best, it is very useless. It is a doubtful question the use of a tail in progression; some say it assists greyhounds' speed, but, turning against this, we ask, what assists the hare, a brushless fox, a deer, and many other swift animals, having most rudimentary tails? Take the long tails of camels, elephants, and cattle. What use are they? Wretchedly weak, flimsy, atrophied things; we feel sorry for them, they don't even answer their purpose as fly-whisks, because they are so weakly organized, the muscles tire before the attack of a gad-fly, and the poor beast has to run for it.

We might write a volume about tails, but the chief one before us is the horse's tail, which is simply a *rudimentary appendage*, and could be very well dispensed with altogether, so far as its necessity to the animal's utility and domestic life is concerned.

We see it often incompletely developed, proving nature attaches little importance to it; some are long, thin, and weak, like a cow's, elevated with difficulty, dangling between legs; some curled laterally on to one quarter, showing one-sided muscular development; some are elevated, some depressed; some so void of circulation that no hair is grown; some, a mass of disease without the animal feeling discomfort, *illustrating its low sensibility to pain.* It is the tail end of the beast, almost removed from connection with the rest of the body, and ill supplied with vitality or sensation; he does not even feel hairs being pulled out.

Why is a horse's tail so differently furnished from other animals by long flowing hair reaching to the ground? Not to whisk flies away, for the very weight of hair overpowers the attenuated muscles and frustrates this purpose, the lips and feet being used instead, and the skin muscle of the neck and shoulders. *Flies* do *not* attack the genital organs; they are provided with odoriferous glands, which are offensive to insects.

Flies usually attack the head; ears and face being specially attractive. The hair of the fore-top and mane are useless weapons against flies; their use is, *protection from violence;* horses go head first through thickets and brushwood, breaking their way with their arched crests; and stallions, who alone are furnished with tusks for fighting purposes, invariably direct their attack at the crest of opponents, which part nature has protected by a heavy growth of hair, only seen to perfection in entire horses.

Had the tail been so important as a fly-whisk, surely it should have been situated between the horse's ears. We do not find the tail most fully grown in hot, fly-swarmed climates. On the contrary, it is in cold, wet, snowy, wind-swept regions, that the mane and tail show luxuriance. Northern-bred ponies, cart-horses, and other coarse breeds, reared in the open, are examples, indicating that the chief use of the tail is for warmth; to protect the animal's body from the elements. The horse invariably stands with his tail to the storm, although on looking at the direction of the hairs on his body, one would have thought he would face a gale.

The luxuriant hair undoubtedly protects the external generative organs

from violence; however necessary this may be in a wild state, such ample covering is not tolerated in domestic life, not only because unnecessary, but would be positively inconvenient to the animal himself.

Long tails are best illustrated by our blood horses, because they have light hairs and thin weak tails, which add to their graceful outline and general beauty, without interfering with their special use; probably this is why they are not docked; but if they always had to be plaited and bobbed up with ribbons (as seen on a dirty racecourse), short tails would soon be the fashion.

Why are horses so generally docked?

For cleanliness and comfort to horse and owner. Experience has taught men that the long tail of his noble favourite is useless to the horse, and a nuisance to the owner. As a dirt distributor it has few equals. We don't canter over grassy plains, but use them on muddy roads, with valuable carriages behind them, or well-dressed gentlemen on their backs, who consider cleanliness a comfort.

The short dock means or makes short hair, which limits the mud-bespattering power of that appendage, and it is not necessary to leap over the banks of Ireland to know the discomfort of a long dock swaying to and fro in a helplessly-indifferent, smother-everybody fashion; and servants bless the long tail in harness, when the use of the whip is answered by a playful whisk of the interesting organ, and a disagreeable shower of particles scattered everywhere.

Observation of stable management shows the tails of horses are often neglected and filthy; a short tail is usually kept much cleaner than a long one.

Domestication makes a short tail a positive comfort to a horse. After a certain age its natural use has passed away, the majority of horses being compelled to relinquish the open fields for the stable. What a miserable picture is a wet tail, bedaggled with mud, clinging about the poor beast's legs, or a long, washed tail, left to dry on a tired, shivering, willing slave, after his day's work. Often and often this appendage is forgotten or neglected, especially in the coarse animals that have the most luxuriant supply of graceful tresses, and we find an accumulation of dirt and filth, a source of irritation, itching, and consequent rubbing of the parts, destroying the hair, and causing unsightly disfigurement.

Docking is not only expedient, but necessary for safety and utility.

It is usually acknowledged by thinking men that a short dock is absolutely necessary for the safe driving of the majority of our many classes of harness-horses, cobs, and ponies—the latter classes being used in low-seated carriages, render a short dock imperative for the comfort and safety of the driver. Country folks keep the same phaeton, gig, village cart, four-wheeler, or trap for years, and use young untrained animals of various sizes in the same conveyance, so that it is impracticable to say, Put up your box-seat, raise your dash-board, rein-supporter, etc., etc. It is ridiculous to talk of a long tail being less likely to get over the driving rein than a short docked one, when it makes a circular remonstrance against the driver's urging whip, adroitly catching the rein (and the horse knowing he has done wrong tucks his tail between his legs and holds it tightly), and if vicious, it is a perilous moment, and disagreeable enough at any time, for drivers sitting below their horses. Gouty individuals, stout ladies, lame folks, and many others, cannot go on coaches. Shall such horse-owners be condemned to stop at home because sentimentalists would oblige them to run a risk of danger so plain, yet so easily obviated?

With a short dock such an occurrence is almost impossible, or very rare indeed ; a cocky little wriggle will liberate the rein, even if caught ; to hold it is next to impossible.

On Pecuniary Grounds.

The highest commercial quality of a horse is his appearance, and this is never complete unless he has two good ends, *i.e.*, head and tail. One can scarcely believe how much a horse's value is increased by the simple and almost painless operation of docking : it puts £25, £50, or even £100 on some animals.

Select a young, strong, half-bred weight-carrier, with a long, heavy tail and terminal extremity, three or four inches too long, curled upwards and outwards, the tip elevated through the hair in the animal's vain efforts to raise the tail (or carry his flag), which the attenuated muscles are too weak to elevate, or even to carry straight—dock such a horse, in other words, cut off the flimsy, inert, and useless, as well as unsightly extremity, and up goes the tail, and with it the horse's commercial value.

The pecuniary argument alone will prove a powerful cause for continuing the operation.

Docking lambs is economy, and a direct *pecuniary* saving to owners, and therefore for the public good ; the lambs gain in comfort and cleanliness ; they escape the attack of flies (surely nature is more cruel than art in permitting the larva of the fly to prey on the living flesh of the sheep), so that docking lambs means practically saving their lives, saving expense in shepherds' time to watch for maggots and dressing dreadful sores, which cause immense suffering and loss, and is a saving of food for the people.

Sentimentalists will tell us little lambs are very cruelly treated, some even die under this barbarous operation performed by rude, uncouth hands, and quite unnecessary if the shepherd is sufficiently vigilant in watching his flock, yet the *kindness* of the shepherd is proverbial.

If docking is justifiable for gain in one class of animals it is also in another.

Is Docking Cruelty ?

Cruelty means inhumanity, barbarity, unmerciful, hard-hearted brutality.

All men and animals that have a nervous system are inevitably bound to suffer pain, and we are justified in painful operations if in our judgment *the object* is to benefit mankind, either directly or indirectly.

As instances of the justifiable infliction of pain, we have the horrors of war, our slaughter-houses, destruction of game and vermin, vivisection, and the minor operations on domestic animals, as castration, spaying, inserting rings in the noses of bulls and pigs, rounding hounds' ears, branding stock, ear-marking cattle, amputating dew-claws, shearing and clipping animals, and surgical operations of all kinds.

Mr. John Colam, Secretary R.S.P.C.A., says "operations which are *needless* and *painful* cannot be defended."

We are justified in killing animals, because we relish the food, although vegetarians prove flesh is unnecessary for the support of human life, still an infinite amount of pain is caused by the fashion of eating flesh.

Emasculation of all classes of animals (including human beings), strikes one as extremely cruel, and yet we find these highly sensitive organs so important as to be indispensable for the reproduction of the species, situated *outside* the abdominal walls, because the all-wise Creator foreknew eunuchs would become necessary to the welfare or the convenience of mankind. Surely the same argument will apply to the amputation of the caudal extremity, so differently organised from the above-named highly sensitive organs.

The structures of the tail all attenuate from base to apex, *an instance of vitality at its lowest ebb*, and is well illustrated in young pigs.

As to the cruelty of the operation of docking it is idle sentiment to call it pain; hundreds are docked by a cut of a knife, standing without restraint of any sort; many do not feel cauterising the cut surface; almost all will allow manipulation of the sore during the healing process without flinching. Instead of being a *painful* operation it is the most *painless* we know, that confers so many advantages to all concerned.

It is unjust to the manhood of British sportsmen, horse-breeders, owners, and veterinary surgeons, to be stigmatized as cruel for an act which has been found advantageous throughout long ages, by increasing the animal's beauty, comfort, safety, usefulness, and value, and the following is a summary of the grounds for continuing the operation. Domestication has so altered the natural habits and condition of the horse that the tail is no longer required for warmth, and the short dock contributes to both the cleanliness and comfort of the horse and his owner.

It is absolutely necessary for safety and use of many harness-horses.

And, on pecuniary grounds, by adding to beauty of outline and bearing of the animal, increases his value, and consequently the extra care in future bestowed upon him.

Many operations on men and animals are only justified by the pecuniary benefit conferred on the community by the suffering of the individual, and when the suffering is so exceedingly limited, as in this simple operation, it is idle to talk of suppressing it by legal measures, which is seriously threatened by the eloquent pens of powerful opponents, appealing to the feelings of the sensitive few.

If this agitation go no further than to prevent untimely and needless docking by officious and thoughtless people, it will do good, as doubtless there are proper and even scientific methods of performing this simple operation, which go far to rob it of its apparent barbarity, so vividly painted by Dr. Fleming in his editorial for February last. I cannot help protesting against his insinuation that the veterinary profession "pander to the depraved taste of docking for the sake of the few paltry shillings" they get as remuneration for operating.

He having already written on page 120, "*Sometimes* docking is performed by a *veterinary surgeon*, but far more frequently it is done by the farrier, blacksmith, or horse-dealer."

Such invidious remarks coming from men in the position of Dr. Fleming and Professor Pritchard (read "The £ s. d. Argument," p. 425, VETERINARY JOURNAL, December, 1883) are misleading to the public, and are therefore to be regretted.

I cannot believe the public will permit this simple act to be stopped by law. Even if it is so, we fear it will be continued at the risk of penalties; and we trust there are plenty of sporting magistrates who will dismiss such prosecutions as frivolous.

Horses are docked because the owner believes the operation necessary; whether for safety or simply to increase the value of the property it matters not; the owner's motive is a good one, and therefore righteous and just.

If the law can prove a man simply cuts his horse's tail *needlessly*, for the sole purpose of inflicting pain, no matter of how trifling a degree that pain may be, by all means let the law punish him. But let us, as veterinary surgeons, point out our views, and then leave the decision of the matter to the discretion of our magistrates.

Mr. GREAVES, in opening the discussion, said he was exceedingly sorry the professors were not there to give us an expression of their views on the operation of docking horses. It was no doubt at the present moment a question of

considerable importance to the profession. He thought that eight out of every ten members would agree with him in saying that it should be left to the discretion of veterinary surgeons to operate in every case as they thought fit. He was not in favour of indiscriminate docking, but let the professional men exercise their knowledge without any fear of being interfered with. In July next at Manchester there would be a meeting of the National Veterinary Association, when the subject of cruelty to animals would be thrashed out. He did believe it was right the Royal Society should interfere between some men and their badly abused horses, but in professional matters the veterinary surgeon maintained that it was necessary to perform certain operations although they might be painful, so long as it was necessary to overcome disease, such as Canker, Sandcrack, etc. Such an operation as lopping dogs' ears was unnecessary, and consequently cruelty. With regard to horses' tails, there were some dealers in London who docked every horse that came into their possession; that is quite unnecessary, and in many cases cruelty. The view he took of it was that the veterinary surgeon should not be interfered with, but allowed to exercise his own discretion.

Mr. CARTWRIGHT thought that docking was often absolutely necessary, but the operation should be performed by competent surgeons; if properly performed there was very little pain attending it.

Mr. WIGGINS asked whether a paper from Mr. Fleming, who was absent, should not be read; he thought it right it should be read before they decided the matter.

The PRESIDENT said the meeting had been called to consider the printed paper compiled by Mr. Stanley, and in his opinion it would not be fair to discuss Mr. Fleming's paper.

Mr. MERRICK said the paper formed part of the discussion, and in his opinion should be read.

It was therefore decided that his paper should be read.

The paper was as follows:—

"It would occupy valuable time needlessly to discuss why some species of animals have largely developed tails, and other species the merest rudiments; or even why varieties in species which have long tails, are all but minus these appendages—as the apes, in the natural order Quadrumana. This is a matter which may be left to zoologists.

There is no evidence whatever to prove that the horse's tail is a rudimentary appendage, as stated by the essayist; on the contrary, there is every reason to believe that it is as fairly developed now as in the earliest progenitors of the equine species.

That the tail could be dispensed with altogether, so far as the utility and the domestic life of the horse is concerned, must be decided by those who have observed the uses to which the tail is made subservient, both in the stable and out of doors, and especially during hot weather, and the season when flies are most troublesome. Ample evidence of this utility is afforded in the case of troop-horses on the picket lines; and so seriously have they suffered at times from the attack of flies, when docking was fashionable in the army, that this operation is now never performed on troop-horses or officers' chargers, and no docked horses should be purchased for military purposes. Look, too, at brood mares in a field or paddock in the summer and autumn, and say if the tail is of no use! Without the tail, or with it amputated as is now the fashion with working horses, the foal would have a poor chance of being properly reared, because of the annoyance and torture the dam would experience from irritating insects.

My own experience, and that of many horsemen in this country, is that the tail of the horse is a most useful organ, and its removal is detrimental to the animal's comfort and utility.

The tail in some horses may be incompletely developed or deformed, but this is no proof of its uselessness. We might as well argue, that because some children are born blind, deaf, ill-developed, or have deformed legs or arms, that the organs of vision or hearing, or the members are useless, and could be dispensed with.

Long tails are undoubtedly used to remove and keep away flies, the length of hair of a full-grown tail permitting the sides of the body to be swept by it. Flies do constantly attack other parts of the body besides the head, ears, and face. They attack the latter most frequently, no doubt, because the animal has difficulty in removing them. Flies do attack the penis and sheath, and more especially inside and outside the flanks, where the skin is thin. In hot countries, where flies and other troublesome insects abound, the tail is well developed, the hair often reaching to the ground. Its utility is recognised in these countries, as well as its beauty, and for this reason horses are never mutilated as in this country.

I entirely dissent from the statement that the sensibility of the tail is low, or that it is a whit less endowed with sensation than many other parts of the body. The truth of this can be very easily demonstrated.

I quite agree with the essayist, that in northern countries the tail is a protection in severe weather ; and as horses are employed here in severe weather, the argument that the tail should not be mutilated holds good.

The essayist appears to labour under the mistaken notion, that those who oppose docking confound the dock (*i.e.*, the bones, muscles, bloodvessels, nerves, and skin) with the long hair. I certainly do not. The horse's dock is comparatively short even in big horses, seldom longer than twenty inches. If the hair is cut off square from the end of the dock, it will be found that the horse has a short tail, sufficiently short for all practical purposes, as far as utilising the horse goes.

The essayist cannot have seen many stallions fighting, else he would not assert that they only attack the neck. It is true they often prefer that part to seize with their teeth, but they are also inclined to seize the fore limbs, and not unfrequently fly at the face and lips, and kick as well as bite. The hair of the mane and forelock is of little, if any value in fighting ; but it is decidedly of much service in keeping off flies from the neck and forehead.

All the cleanliness desirable in domestication, so far as the tail is concerned, can be obtained by cutting the hair to any length without amputating the dock, and all the complaints about mud clinging to the tail can be got rid of by this simple and painless measure, which does not leave the poor horse defenceless for ever afterwards. For it must be remembered, that though it may be said that the flies do not annoy horses in stables (which I deny), yet that horses and mares work out of doors, and that many of them are even turned out to graze at times, and are exposed to flies and weather.

The safety supposed to be obtained in harness by docking horses is disputed by most experienced horsemen ; and so far as my own experience and observations go, is purely imaginary and a fallacy. In countries such as the United States, Canada, Russia, and indeed all over the Continent, as well as in the East, docking is not practised ; and yet in all of these horses are driven in harness, and in some of them, as the United States, horses are only employed in harness ; and from the way in which they are harnessed in buggies and trotting machines, if the natural dock was dangerous, or even diminished the usefulness of the horses, it would soon be shortened or removed altogether, for the Americans are a utilitarian people, and do not indulge in idle fancies.

But if it be conceded (which it cannot be, in face of the evidence to the

contrary), that safety in harness is obtained by amputating the dock, what argument of utility can be brought forward in favour of docking polo ponies, park-hacks, and riding-horses in general? Some of these are left with only a few inches of dock.

The operation of docking, when not performed for the cure of disease or removal of deformity, must be considered useless, unless good reason can be shown for resorting to it in other circumstances. I have at present under my observation about 13,000 horses which have not been docked, and no bad result has ever been reported from their being allowed to retain the natural length of the dock. On the contrary, it would be highly disadvantageous to them, and prejudicial to the interests of the service, to have them docked. At one time they were all docked, as it was fashionable.

The essayist alludes to the increase in money value of docked horses. This is simply because it is fashionable to have them docked. In other countries the operation would decrease a horse's value very considerably, by diminishing his beauty and completeness. A few years ago certain breeds of dogs—terriers, for example—had scarcely any value unless their ears were cropped, simply because a depraved fancy caused "cropping" to be fashionable. That fashion is dying out, because it is not only cruel and unlawful, but also people are seeing the absurdity of it. Dogs' tails are cropped or shortened, because it is fashionable to have dogs with short tails, for the same reason that horses are docked.

(*To be continued.*)

THE WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this society was held in the Veterinary College, Glasgow, on 30th April. Vice-president, Mr. Anderson, jun., in the chair. Present: Messrs. Pottie, Lindsay, Peddie, Allan, Blue, Weir, Brownlie, Boyle, Weir (Airdrie), Tweedley, Taylor, Pollock, Kerr, Pollock (Hamilton), Wyper, Mitchell, Jarvie, and the Secretary.

Apologies for absence were received from Professor McCall and Messrs. Campbell and McIntosh.

The minutes of the last meeting having been read and confirmed, the Chairman called upon Mr. Pottie to make some observations on Mr. J. H. Cox's theory of the cause of Parturient Apoplexy.

Mr. POTTIE said:—It is now about fifteen years since I read a short paper before the members of this Association on "Milk Fever." My endeavour then was to prove that the knowledge we possessed regarding it was very defective, and as I had been experimenting with several cases, I gave the result of my finding, the conclusion of which was that the treatment I commonly adopted, on the recommendation of my teacher, Professor Dick, instead of curing the cow, often *killed her.*

I do not intend to enter fully into the subject on this occasion. I shall merely call your attention to the latest written article, in the VETERINARY JOURNAL, on the subject. Mr. J. H. Cox, of the Army Veterinary Department, recently favoured the readers of that journal with his ideas on the subject, endeavouring to prove that Milk Fever is due to Thrombosis or Blood-clot. As this theory seems to me quite inconsistent with known facts, I take this opportunity of bringing some of Mr. Cox's views before you, in order to better prepare the subject for discussion, and will freely give my reasons for disputing this new theory. A well-known writer on medical science has said that the science of medicine, properly understood and truly taught, must depend for that truth on the proper classification of facts. If this idea were more attended to by writers on disease, I am certain they

would often arrive at similar conclusions, and approach nearer to truth. I would go a step further, and recommend that we ought, in seeking to find the true nature of a disease, to select those diseases which present symptoms almost similar, and make a comparison; then we might find that though differing in name, they were really only the same disease, differing only in manifestation or time of attack.

My object is to test Mr. Cox's theory of Milk Fever by the various known truths ascertained about the disease, some of which are found in Mr. Cox's paper.

1st truth. That the disease is seldom observed in the cow before the age of five years.

2nd. The disease is more frequently found to attack animals in a plethoric condition.

3rd Is more frequently observed to affect animals of the pure Ayrshire and Guernsey breeds; Shorthorns and Highland cattle are almost exempt.

4th. Is more fatal in pure-bred than cross-bred animals.

5th. Seldom occurs subsequent to three days after calving.

6th. Occurs before calving.

7th. Previous attacks favour its recurrence.

8th. More prevalent in the cow than any other class.

There are other facts, but with those I have named every practitioner must be more or less familiar. I do not expect to get a reason for every fact; it is not possible to satisfy every one in defending a theory, but I do expect that no true theory would contradict a well-known fact. Without going over all these statements in detail, I would inquire, Is it a fact that the cow is affected before calving? I have no hesitation in asserting—after twenty years' extensive practice amongst cattle of the pure Ayrshire breed—that I have attended to many such cases, and often assisted affected animals to expel the fœtus. It is impossible that blood-clot could be the cause of the "fever" in those cases. Lest I have misinterpreted Mr. Cox's articles, I quote the following from his paper on the origin of this blood-clot. He says:—"It may occur after hæmorrhage from softening and breaking up of the clots, which form a temporary or permanent arrestation to the flow of blood from the divided ends of vessels, and which clots are afterwards taken up by the circulation." (Now mark that!) "This latter condition is, in my opinion, the one which gives rise to Parturient Apoplexy." Again, he says: "I feel persuaded that this morbid condition—Thrombosis—is alone the *prima causa* of the existent phenomena in Parturient Apoplexy." These are Mr. Cox's words. If we can prove that Milk Fever does occur before calving, before there is any hæmorrhage from the end of any blood-vessel, and before any clot has formed, it is impossible that Thrombosis can be the cause in such cases. If the disease can appear without "clot" before calving, it is just possible that Thrombosis has nothing to do with its *post-partum* occurrence. On page 408, vol. xvii., VETERINARY JOURNAL, Mr. Cox says:—"The attention of veterinarians is sometimes directed to another form of Apoplexy, which makes its appearance *ante* the birth of the offspring. This surely cannot be classified as Milk Fever; at the same time, it bears the closest analogy to results occasioned by Thrombosis." I expected that Mr. Cox would give a name to this new form. He did not attempt the task, no doubt fearing the effect on his theory.

Let us take another truth, viz., seldom observed in the cow before five years. Mr. Cox says this agrees with his theory, because in each gestation the uterine vessels become enlarged, with a tendency to increase in size at each successive period of utero-gestation. According to this reasoning, the older the cow the more liable to Thrombosis, and, therefore, to this disease. What are the facts? I find that from five to seven years old the cow is most

liable; in other words, when the animal is at its full vigour—at maturity, when we hold every part is strongest and the milk most abundant, that is the time most dangerous. Is it true that an animal at two or three or four years can be as strong as one at maturity? if so, maturity has a wrong meaning Blood-clot is as likely to form in a Highland cow after calving as in a fine-bred Ayrshire, and quite as readily in a poorly-fed cow as one in a plethoric condition. Mr. Cox has advanced what he calls an additional fact, and says it is generally conceded—I presume, by the profession—namely, that in all cases of parturition where an undue amount of hæmorrhage is present, the disease always makes its appearance. Now is this generally conceded? I, for one, say it is not true. Neither from my knowledge of the structure of the womb, nor from observation, can I assent to the statement. In those cases where we have difficult labour, there is any amount of blood and abundance of clot, but it happens that those are the cases which are not followed, except rarely, by Milk Fever. To put it plainly, I maintain that in cases of difficult parturition, where hæmorrhage is abundant, we have no Milk Fever.

With regard to predisposing causes, Mr. Cox say:—"Pre-existing disease which militates against the proper performance of the circulation, such as tumours on the main vessels, heart disease, etc., may be said to be predisposing causes." I ask any one present if he ever saw a case of Milk Fever and heart disease? Is it not contrary to fact? An animal with heart disease could not be in condition. How many cases have we found with pre-existing disease? The animals affected have always been in perfect health, feeding well and milking freely. But what think you of this remark, that the habit of "punching" a cow's side to ascertain if she be in calf is a cause of Thrombosis, and therefore a cause of Milk Fever? I can scarcely conceive of a practical veterinary surgeon putting forth such a statement. Now, as to Mr. Cox's treatment for clot, when fairly established he would bleed before the animal goes down, taking five or six quarts. I have great difficulty in accounting for this recommendation. What effect it would have on the blood-clot, in the way of removing it, seems involved in mystery. I think the cow would not live long. Mr. Cox's great remedy is the cold wet pack; and, as we have so often heard, it must be kept closely applied to the body, because the admission of air would destroy its effect. I have always looked upon this as a fine method to escape the taunts of a refractory employer, when the case did not recover. I say it is a fine loop-hole to get through; but what is the fact, can it be done in one case out of twenty? I say it cannot. What is the use of a remedy if it is impracticable? Mr. Cox cites one case where the "pack" failed; but he at once placed the blame on the attendant, for the animal, when he last saw her, raised her head. It is bad practice to blame an attendant for an impossibility. Mr. Cox makes matters still worse by his closing statement, that he did not really know the effect of his treatment, as he kept no statistics. I can tell him, as long ago I gave it a trial and gained no good results.

It appears to me sheer folly, for any one to account for a disease upon grounds not consistent with facts, and to recommend treatment not in accordance with the theory advanced. Anything Mr. Cox has advanced seems to shroud the disease in greater darkness. I would therefore recommend him to ponder over the eight facts given, and try to construct a new theory upon them, instead of endeavouring to make facts square with his ideas, which are remarkable for their thinness and absence of stability.

The CHAIRMAN next called upon Mr. Weir, Glasgow, to read his notes of a case of Leucorrhœa in a mare.

Mr. WEIR said: On the 4th of August, 1883, Messrs. Stewart and McDonald, of this city, bought an Irish bay mare for van work. I examined

and found her sound. On the morning of the 16th of August I was asked to see the mare. I found her blowing considerably ; temperature, 102⅘° ; not feeding, and lungs slightly congested. On inquiry, I learned that the mare had performed a severe day's work on the previous day, which was cold and stormy, and that the mare had shivered a good deal after being stabled. I immediately caused her to be removed from the ten-stalled stable in which she was standing to a two-stalled one, that being the best shift I could make. Applied mustard to the chest, gave stimulating medicine, and had the pleasure of finding my patient much improved when I returned to see her in the afternoon. I saw her the following day, when I found her so well, that I I considered it unnecessary to see her again, but as her sides were tender I ordered her to be kept in the stable for a week or so. She was worked for two half-days or so, when I was again called in on the 28th August. I found her extremely stiff, the hind legs held up alternately ; unwilling to move ; unable to trot, groaning on turning ; feeding a little. Pulse 65, full and round. Thinking Lumbago had resulted from the chill, I had mustard applied to the loins, to be followed by a sheepskin ; gave her Potass. bicarb. in half-ounce doses twice daily. This treatment was continued for a few days, but was of no avail ; the stiffness getting worse, the appetite more capricious, and appearances altogether more unfavourable. On the 3rd September in the stable I noticed the mare discharging as at the period œstrum, the external organs of generation considerably swollen, and the clitoris protruding. On expressing my surprise, the foreman said he had always intended informing me, that the mare had been discharging all along, from her first attack, but that the discharge was now more frequent and more abundant, and also that she urinated often in small quantities. The holding up of the hind feet still continued. The discharge was not so white as I have seen it from some old mares in which Leucorrhœa is chronic, but rather glairy and turbid, and of the consistence of raw white of egg. I now felt that I had fathomed the secret of the mare's illness, and changed my treatment at once. I continued the sheepskins for a day or two, and gave Ferri sulph. in two-dram doses twice daily. On the 5th September, with Mr. Dickson, I explored the generative canal. I found the walls of the vagina swollen and congested, the os uteri protruding much more than normal, tense, and painful. On withdrawing the hand, the mare expelled a quantity of mucus. I introduced a catheter into the uterus, and after well washing with cold water, forced in a solution of alum—two drams to a pint of water. This treatment was continued successfully for ten days, the catarrh steadily declined, the swelling of the vulva diminished, the appetite improved, the stiffness disappeared, and the lifting of the hind feet noticed less frequently. The back was in a sorry state, and I very much regret having used so strong external measures for two reasons : the mare was kept much longer in the stable than necessary, and the surface of the loins was permanently denuded of hair. The injections were employed at intervals for a few weeks. The mare being emaciated and the back tender, she was kept in till the 26th October, when she was put to work, and "has never looked over her shoulder since."

Regarding the etiology of this case, I think it may be summed up in a few words : We have here an animal on heat, the membranes of the genitals more vascular and irritable, performing a perfectly normal function ; the animal suffers from a severe chill, and as a result the vascularity of these membranes is further increased, leading to hyper-secretion from the genital mucous surfaces, or from the glands opening upon them.

A discussion followed the remarks of Mr. Pottie and Mr. Weir, in which Messrs. Lindsay, Brownlie, Peddie, Weir, and the Chairman took part.

Mr. POTTIE replied, and sketched briefly the line pursued by himself in

the treatment of Milk Fever. In reply to a question, he said that he had long been convinced that the cause of the disease is indigestion.

The usual vote of thanks brought a highly interesting meeting to a close.

J. MACQUEEN, *Secretary.*

SCOTTISH METROPOLITAN VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 373.)

Naturally the question will be asked, "What is the remedy?" I can only suggest that a little more liberality be shown to students, and that their answers, when differing from the views of the examiners, should be accepted if they are based on authoritative teaching. In reference to the methods of examination—that the examination be partly written, that the number of examiners be increased when over a certain percentage of candidates appear, and, if it is thought necessary, that assessors be appointed; and I hope that the fashionable system of cavilling at the schools will fall into desuetude, and that all will unite together for the improvement of the profession. The schools have not, by some at least, been accredited with exercising a beneficial influence upon the onward progress of the profession. Let us see what their influence has been, but in order rightly to estimateit, it is necessary, in the first place, to inquire into the influence which technical education has exercised upon the progress and position of all professions, upon the arts, upon science; and I do not think I shall be charged with making a too sweeping declaration when I say, positively, that the advancement of all professions, of all arts, of all sciences, has been contemporaneous with, and in exact proportion to, the care which has been bestowed upon technical education, generally and particularly; and, what is more, that in proportion to the neglect of this form of education has been the decline in the particular art or science upon which that neglect has exercised its baneful influence. Nay, more, and of still greater importance, I will venture to assert that the advance of nations in civilisation and in refinement is always intimately linked with the amount of energy put forth in the improvement of the scientific and technical mind of the subject. Look where you will, gentlemen—to the sister science of medicine; to the intimately related art of agriculture; to the more exact sciences; to the arts; even to mechanics—and you will, if you choose to exercise your faculties, be able to perceive that all owe their present high position to the careful nourishment and encouragement of technical studies. Every now and again you will see some great industry declining, and the cry goes forth, Cannot it be resuscitated—revitalised? And then some Solomon comes forward and puts his finger upon the source of blight; points out that the work has been done in a slovenly and perfunctory fashion; that hands, not brains, have been the guiding force; that there has been no desire to improve, no desire to attain to eminence, no desire to introduce new ideas, or to step out of the beaten track. Then, and not till then, is there a revivification, a new start made on the road to perfection, a determination on all sides to excel; and assuredly the end, as a rule, is *success.*

Gentlemen, has it not been so in the case of our own profession? I challenge denial. And in proportion to the advancement of the schools has been the advance of our beloved and humanitarian calling. Look back over sixty or eighty years. See men treating the diseases of animals by rule of thumb, without the slightest aid from that higher intelligence which is alone gained by the exercise of the trained mental faculties; administering this medicine, or performing that operation, because their forefathers did it, or

because experience had taught them to do it; without any higher notions, without any idea of the *modus operandi* by which the ends they desired from the application of their nostrums were to be gained. Look at the present position of medical and veterinary medical science. In each case honest endeavours are made to obtain some satisfactory knowledge of the influences exerted upon the system by the medicaments usually employed in the daily combat with disease. And if in many instances these endeavours terminate in failure, is that any reason why we should feel disheartened or deterred from prosecuting our inquiries? Nay! rather that we should persevere, knowing well that Nature sometimes reveals herself in marvellous and unlooked-for ways, and that very likely, just as we are beginning to despair, we have our feet on the threshold of success. Sceptics may scoff at our failures. We need not heed them. Scepticism is often begotten of ignorance; scoffing of indolence and envy. And whence comes the impetus to these honest endeavours to understand the influence of the forces we daily employ? I answer, From the schools. Practice, unaided, did nothing for ages to lift medical science out of the slough of ignorance in which it wallowed, and would of itself have done nothing now; but aided by the higher —may I say, the divine?—light of science, it has gone on progressing and approaching, day by day, nearer and nearer to perfection.

But while I say this, I am quite willing to acknowledge that the influence exerted by the schools has been, is now, and ever will be, in exact proportion to their own honest efforts in the direction of internal improvement, for so sure as the teacher lulls himself into a false self-complacency, into the idea that he knows all that can be known as to the particular branch of science which he professes to teach, so soon will the taught, with very few exceptions, follow in his steps; and I am afraid, humiliating as it may be to me to make the confession, we have a good example of it in the case of our own schools. I refer to the marked difference which has existed in the past in the onward progress of the graduates of the oldest school, the London, and the newer school, the Edinburgh. And to what has this been owing, but to the desire for progress which existed in the mind of the leading spirit of the latter, to the indifference to progress which for so long a time prevailed in the former? In the one case the teacher was an enthusiast, and carried his mind far beyond the confines of the present; in the other, I am afraid, the present was the "be-all and end-all" of existence. Professor Dick pressed into the service of his school the professors of sciences outside his own profession, and not only were histology and physiology taught as a part of the curriculum, but the students were urged to take advantage (and the opportunity was often afforded them for so doing by the various teachers) of the instruction given in pathology, in medicine, and in surgery, at the University of Edinburgh. Twenty years ago, all that was taught of histology or physiology in the London school could be taken down in about twenty pages of notes; a little histology (not practical, but purely theoretical) from one, a smattering of physiology from another, was all that the student could get, and the only man who attempted to step out of the beaten path and to teach pathology in its more enlightened form was that veteran teacher, Professor Simonds, the notes of his lecture upon Inflammation alone occupying more pages of a note-book than those of all the histology and physiology combined. Medicine and surgery were taught, but the other subjects were merely glanced at; and it is only right to add that in helminthology and cattle pathology, thanks also to Professor Simonds, the students of the south had a great advantage over their brethren of the north. This one example alone, gentlemen, is sufficient to show the value of technical education—the benign influence of the schools. But to come a little nearer home, let us see what even the profession has demanded, and is demanding, in the matter of education.

A few years ago there was no test examination in general knowledge, there was no botany taught, and no examination on that subject held, histology or physiology had no separate place, and the fringe only of pathology was touched. An educational test was instituted, and it has been made more searching as time has gone on; botany, histology, physiology, and pathology have each their separate teachers, each their appointed examiners, and, although the pressure exercised by the profession on the Council had undoubtedly much to do with the inauguration of these changes, many of them had been introduced into the schools long before the profession spoke. Some of the teachers had a hand in putting the regulations in regard to them in force, and all have honestly laboured to give the student a thorough knowledge of the branch of science which they individually profess. And yet the teachers are by some cavillers practically charged with being obstructionists, and that, too, when they have only discharged the duty of protecting their own interests, and the interests of the schools with which they are connected. In some cases they have not been given credit for the practice even of common honesty, because they have not seen eye to eye with the profession, or with the profession's representatives. Certainly there have been instances of opposition, and in one case, perhaps, an unfortunate attempt to dish the profession, but in most instances the opposition has been honest, has been free from disinterested motives, and has been governed by a desire to prevent injustice to the few. In the matter of education the schools, with one exception (and that exception was justified, probably, for reasons which we know not of), have been unanimous in their desire to have a higher test instituted, provided always that it was made applicable to all alike, and I rejoice—and I am sure the representatives of other schools do so equally—that a satisfactory arrangement has been arrived at, and that in the future we shall have an independent and unbiased test applied equally to all intending students of the profession.

No! gentlemen, the profession cannot do without the schools, any more than they can exist without the aid of the profession, and if the latter benefits by the former, it is a reversionary benefit, for the minds of the younger graduates who go out from them must re-act for good on the minds of their older brethren; their brains are charged with the newer knowledge, and if their seniors are inclined to do so they may share it with them. The students of the present possess advantages infinitely beyond those possessed by the students of the past, the accumulated wisdom of ages is theirs; your experience and mine, and the experience of the generations immediately preceding is theirs also, and it is for them to improve upon it, and to evolve from the convolutions of a more highly educated brain ideas which shall assist even their seniors in their life's work.

The President then invited discussion of the various subjects which had been brought before the meeting, particularly the election of members of Council, and directed attention to the fact that only Fellows will be eligible for election to the Council and Examining Board after 1886.

Professor WILLIAMS said: In the first place, I wish to make a few remarks about the election of councilmen. I quite agree with Professor Walley that, under the present charter, it is impossible to make any alteration; but new charters are easily obtained. Looking to what will happen in maybe a few years, it strikes me that the charter will have to be repealed after 1886, otherwise the Royal College of Veterinary Surgeons will be at a deadlock, as it will be impossible to go on if none but Fellows can be members of Council and examiners. Where are the Fellows to come from?

In the second place, the appointment of non-qualified persons as inspectors has been referred to. It lies with the Veterinary Inspector of the Privy Council to instruct the Privy Council as to whether they should appoint these

men or not. I am sorry to say that the veterinary officer of the Privy Council does not advise the appointment of qualified veterinary surgeons only. I think that it should be brought under his notice at the Privy Council table.

The subject of docking is one on which I hold a very strong opinion. I consider that veterinary surgeons ought not to be prevented from performing this operation. The operation certainly causes some little pain, but it is undoubtedly necessary. We have recently had four undocked horses under treatment for injuries to the tail, injuries which could not have occurred had the animals been docked.

Professor MCCALL, Glasgow, remarked that there was much valuable information in what Mr. Cunningham had said. He held that, seeing more students are taught in Scotland than in England, they were entitled to have a reasonable representation in the Council. At all events, they should have half as large a representation of examiners as their English friends had. Such not being the case, justice cannot be done either to England or Ireland. He was of opinion that there should be only one Examining Board and one Council for the profession. He had always entertained the opinion that it would be a mistake to have a Scottish charter and two licensing bodies. He had not the slightest doubt that if they went in for a Scottish charter they would obtain it, but he held that it was not necessary.

Mr. POTTIE, Paisley, said it was represented to them by a gentleman from the Royal College of Veterinary Surgeons that if the Highland and Agricultural Society's examinations were abolished, they would receive a better representation, but they had no prospect of this under the present circumstances. He was in favour of getting a new charter, unless their grievances were redressed. He considered the regulation whereby only Fellows will be eligible for election to the Council after 1886 to be a most objectionable arrangement.

Mr. SPREULL, Dundee, President of the Scottish Central Association, thought that they would not be properly represented until the election was carried out on Mr. Cunningham's plan. He approved of that scheme entirely, and thought that they ought to lose no opportunity of advancing it.

Mr. CAMPBELL, President of the West of Scotland Veterinary Medical Association, said he had much pleasure in supporting the views expressed by Mr. Cunningham. He thought the constituency system of election was greatly wanted, particularly for Scotland.

Mr. MCGREGOR, President of the North of England Association, expressed his approval of the constituency plan of election. He said that they in the North of England felt that they were not properly represented in the Council.

Mr. T. GREAVES, Manchester, said that he was one of the members of Council at the time the memorial was presented ; that it was met in a friendly and liberal frame of mind ; but that they had no power to grant the prayer of the memorial. It would be necessary to get a new charter in order to change the mode of election. He, for one, would vote for that, as he felt that there ought to be a better representation in the Council.

Mr. CUNNINGHAM said it was most important that they should get men to go to the Council who are real friends of Scotland. He proposed they should begin by trying to get the Principals of the three Scotch colleges elected. If they could get about 400 votes for each candidate, their election would be certain. He would telegraph to the secretary to have the nominations of those three gentlemen entered at once.

Mr. CONNACHIE said : What we want is that the Scotch practitioners shall stick together, and try to get the three Principals into the Council this year. If any of us in Scotland demur to anything that is brought before the

Council, we are immediately attacked with such epithets as "narrow-minded," and get abused in the veterinary journals by anonymous nonentities.

Mr. H. HUNTER, Newcastle, said that the North of England was entirely unrepresented in the Council. He thought the Scotch societies should unite with the North of England societies in their efforts to return their nominees.

Mr. RUTHERFORD thought that the three Scotch societies ought to amalgamate with the North of England and Border counties, not only for political purposes, but also to support each other socially and professionally. He begged to second the motion that Principals Williams, Walley, and McCall be nominated to represent Scotland in the Council. He held that the Principals of schools, in virtue of their position, should be members of Council, and need no election.

Mr. CAMERON, Berwick-on-Tweed, thought that they ought to assist the North of England Society in returning their candidate. He agreed with what had been said on the subject of docking. He suggested that the North of Scotland Society, which had been asleep for a long time, should be roused up and asked for its assistance.

Mr. THOMSON, Aberdeen, treasurer of the North of Scotland Society, said he would do his best to advance the business by getting others to take an interest in it.

Mr. A. ROBINSON, Greenock, endorsed what had been said as to electing the Principals of the schools. He agreed that they ought to be in Council in virtue of their office.

Mr. PHILLIPS thought that Scotland and the northern counties of England were not represented as they ought to be. He approved of the amalgamation of the Scottish and North of England societies. He hoped to see the day when the Principals of schools would not require to be elected, but would take their places in Council in ordinary course.

Principal WILLIAMS approved of the amalgamation scheme. He thought the time had arrived when every person aspiring to be a member of the Council should have a political creed.

Professor MCQUEEN thought that Mr. Cunningham's memorial should be brought up at every annual meeting of the societies, in order to keep the scheme continually before the members of the profession.

Mr. CUNNINGHAM was of opinion that they should go out from the Royal College, and get a diploma-granting body of their own, as he thought they would never get more justice from that college.

The PRESIDENT said he thought the matter had been well thrashed out, and the time had come when the motions should be put to the meeting. The first motion, proposed by Mr. Cunningham, and seconded by Mr. Rutherford, was that Principals Williams, McCall, and Walley should be nominated for the forthcoming election to Council.

The motion was unanimously agreed to.

The second motion, proposed by Mr. Rutherford, and seconded by Mr. Spreull, was that the three Scottish societies should amalgamate with the North of England Association, and assist in carrying their nominee.

The motion was agreed to.

After some conversation it was agreed that the secretaries of associations should form a committee to carry out the objects in view.

Mr. SMART, hon. secretary of the North of England Association, said that there were between 400 and 500 practitioners last year in Scotland and the North of England, and he believed that if they worked together they could carry three or four men—that was, if they worked for them and no one else.

The PRESIDENT asked if each society was to bear an equal part of the expense that might be incurred.

Mr. MULVEY said the North of England Association were prepared to bear their share of the expense.

It was understood that the associations would bear an equal part of the expense.

A vote of thanks was given to the Chairman, and the proceedings terminated.

Immediately after the business meeting upwards of seventy members and others dined in the Waterloo Hotel. Principal Walley occupied the chair, while Mr. Spreull, Dundee, and Mr. Campbell, Kirkcudbright, were croupiers. The usual loyal and patriotic toasts having been honoured, Mr. SPREULL proposed the toast of "The Royal College of Veterinary Surgeons," which was responded to by Mr. GREAVES, who said he should be glad to see a greater number of Scotsmen in the Council than there were at present. The matter rested in their own hands, and they might obtain a greater share in the representation of the Council if they would only shake off their apathy and agitate as the men of Lancashire had done twenty years ago. The remaining toasts were, "The Sister Profession," proposed by Professor MCQUEEN, and responded to by Dr. HUNTER; "The Highland and Agricultural Society of Scotland," proposed by Mr. BORTHWICK, and replied to by Mr. CONNACHIE; "The Lord Provost, Magistrates, and Town Council," proposed by Principal MCCALL, and replied to by Bailie ANDERSON; "The Scottish and kindred Veterinary Medical Associations," proposed by Principal WILLIAMS, and replied to by the presidents of the different associations; "The Benevolent and Mutual Defence Association," proposed by Mr. POTTIE, and replied to by Mr. GREAVES; "The Board of Examiners," proposed by Mr. CUNNINGHAM, and replied to by Mr. A. ROBINSON; "The Schools," proposed by Bailie ANDERSON, and replied to by the Principals; and "The Visitors."

T. H. LEWIS, *Hon. Sec.*,
Scottish Metropolitan Veterinary Medical Society.

EXAMINATIONS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

AT the meetings of the Court of Examiners of the R.C.V.S., held on the 31st March and April 1st and 2nd, the following students from the Royal Veterinary College were admitted members of the profession:—

Mr. A. Barrett	Totnes, Devon.
„ S. Cliffe	Brighouse, Yorks.
„ T. G. Hewitt	Notting Hill, W.
„ L. Burghope	Bridgwater.
„ W. Brown	Holloway.
„ C. W. Heinemann... ...	Mile End.
„ F. Bazley	Frome.
„ J. Walker	Torquay.
„ G. H. Evans	Highgate, N.
„ W. B. Whigham	Maynooth, Ireland.
„ W. Drewitt...	Gloucester.
„ J. Hammond	East Dereham.
„ A. C. French	London.
„ H. Pemberton	Handsworth.
„ W. H. Taylor	Nottingham.
„ E. Taylor	Derby.
„ W. Willis	Bishopwearmouth.
„ G. H. Goulding	Cornwall.

The following students passed their "Second Examination" on the 3rd, 4th, 5th, 7th, and 8th April, 1884 :—

Mr. H. A. Spurgin.
„ J. B. Exley.
„ C. W. Marshall.
„ B. Lacey.
„ *H. G. Rogers.
„ *A. Marriott.
„ M. G. Byerley.
„ A. Cawdle.
„ W. Ascott.
„ A. Brassington.
„ W. R. Walker.
„ W. Revill.
„ *H. B. Arnald.
„ F. Wright.
„ *J. T. Vickery.
„ *G. E. King.
Mr. A. H. Beeby.
„ E. Ebbetts.
„ J. Blakeway.
„ *H. Buckingham.
„ C. Winteringham.
„ *F. A. Simpkin.
„ H. B. Maples.
„ R. A. Lord.
„ *W. James.
„ *W. Littlewood.
„ A. E. Shorten.
„ *W. E. Cawdle.
„ P. D. Langley.
„ H. J. Dawes.
„ E. R. Smythe.

The following students passed their "First Examination" on the 10th April :—

*Mr. E. S. Gubbin.
„ H. A. Kennedy.
„ C. A. Johns.
*Mr. L. P. Rees.
„ *W. E. Dain.

At the meetings of the Scottish Section of the Court of Examiners, held in Edinburgh and Glasgow on and between the 12th and 29th of April, the following gentlemen passed the final examination, and were admitted members of the profession :—

New Veterinary College (Edinburgh.)

Mr. Alfred Joseph Haslam	...	Manchester.
„ Alexander Lawson	...	Dunning, Perthshire.
„ James Platt ...	...	Southport, Lancashire.
„ Alexander F. Durkie	...	Dundee.
„ Clement Dyson ...	...	York.
„ James Ashton ...	...	Bolton, Lancashire.
„ Joseph Purdy ...	...	Belfast.
„ Joseph Forgham ...	...	Holmes Chapel, Cheshire.
„ James Borthwick ...	...	Kirkliston, Edinburgh.
„ John T. Crosby ...	...	Whitby, Yorkshire.
„ William Lothian ...	...	Duns, Berwickshire.
„ Joseph Faulkner ...	...	Rochdale, Lancashire.
„ Alfred Conisbee ...	...	Great Bookham, Surrey.
„ Alexander Lennox...	...	Maybole, Ayrshire.
„ A. G. Darwell ...	...	Leigh, Lancashire.

Dick Veterinary College (Edinburgh.)

Mr. Thomas Woof ...	...	Catford, Kent.
„ Charles Treble Lang	...	Scarborough.
„ Mr. Joseph Barclay	...	Dunfermline, Fifeshire.
„ William Kent ...	...	Boston, Lincolnshire.
„ Henry C. Fergusson	...	Stanley, Perthshire.
„ George Ellison ...	...	Chorley, Lancashire.
„ William R. Davison	...	Port Glenone, Co. Antrim.
Frank G. Ashley ...	...	Litcham, Norfolk.

Mr.	Frederick Airey	Lewisham, Kent.
„	Charles Cowie	Banff.
„	Frederick P. Bennett ...	Banbury, Oxford.
„	Thomas Butcher	Salop.
„	John E. Tudor	South Shields.
„	William Jeeves	Scarborough.

Glasgow Veterinary College.

Mr.	Robert McNair	Helensburgh, Dumbartonshire.
„	Samuel Hirst	Barnet, Herts.
„	Thomas McCauley ...	Belfast.
„	Robert Weir	Islay, Argyleshire.
„	Gregor McGregor... ...	Kippen, Stirlingshire.
„	Joseph Larkin	Carlingford, Co. Louth.
„	William Fraser	Largs, Ayrshire.

The following passed their "Second Examination":—

Glasgow Veterinary College.

Mr. W. Ferguson.
„ *E. Sayer.
„ D. Weir.
„ A. Reid.
„ H. O. Richard.
„ W. Carruthers.
„ R. S. Mitchell.
„ *John McKinna.
„ D. McIntyre.
„ T. Dobie.
„ D. J. McCambridge.
Mr. D. M. Gray.
„ *William Hodgson.
„ N. B. Green.
„ *W. Ward.
„ A. Newlands.
„ J. A. Cunningham.
„ T. F. Renshaw.
„ A. Marshall.
„ J. Ward.
„ *C. J. Doyle.

New Veterinary College (Edinburgh.)

Mr. A. W. Middlehurst.
„ A. G. Corner.
„ B. W. Bloomfield.
„ W. Harris.
„ C. Aggie.
„ J. Bell.
„ H. Wilkinson.
„ T. Anderson.
„ T. Watson.
„ W. Noar.
„ T. H. Secker.
„ *C. Drabble.
„ *O. G. Barrow.
„ T. Shepherd.
„ R. Price.
„ T. Duckworth.
„ F. W. Somers.
„ W. Fenwick.
Mr. S. Jackson.
„ R. W. Dawtrey.
„ J. Hodgman.
„ T. Peacocke.
„ C. Galloway.
„ *E. G. Lawson.
„ *W. Bannatyne.
„ W. Allan.
„ *R. Porch.
„ A. McArthur.
„ A. Kay.
„ *S. Chambers.
„ G. H. Simpson.
„ *R. Rimmer.
„ *J. A. Robinson.
„ †J. Moore.
„ *W. D. Connochie.
„ H. Higgs.

Dick Veterinary College (Edinburgh.)

Mr. A. W. Davies.
„ J. Barr.
„ *G. Kinnell.
„ J. Armstrong.
„ *J. S. Lloyd.
*Mr. J. W. Whitecross.
„ P. Snaith.
„ R. E. Thomas.
„ F. Tonar.
„ A. Levie.

Mr. J. Troughear.	Mr. G. McLaren.
„ *H. Rickell.	„ J. E. Gemmell
„ R. Reid.	„ F. Brown.
„ J. Hawke.	„ J. F. Soga.

The following passed their final examination :—

Glasgow Veterinary College.

Mr. M. F. Giblin.

New Veterinary College (*Edinburgh.*)

Mr. C. Blackhurst.	Mr. G. Finlay.
„ A. Reah.	„ Mr. T. S. Atkinson.
„ *C. Weatherall.	„ †T. Bowhill.

Dick Veterinary College (*Edinburgh.*)

Mr. R. T. Tibaldi.	Mr. Alex. Young.
„ G. Pearson.	„ J. King.

* Marked thus passed with Great Credit.
† Marked thus passed with Very Great Credit.

R. RUTHERFORD, M.R.C.V.S.,
Secretary Board of Examiners (*Scottish Section*).

GLASGOW VETERINARY COLLEGE.

THE winter session of this institution terminated on 11th April, and on the 14th, 15th, and 28th the oral examinations of the Royal College of Veterinary Surgeons were conducted within the museum of the College. The candidates for diploma were also subjected to a rigid practical examination on horses, cattle, and sheep, selected and brought to the College for that purpose. The Board of Examiners included Mr. George Fleming, LL.D. ; Mr. J. Roalfe Cox, F.R.C.V.S. ; Professor Duguid, F.R.C.V.S. ; Professor Pritchard, M.R.C.V.S. ; Mr. J. Vaughan, F.R.V.C.S. ; and Mr. Finlay Dun, F.R.C.V.S., London ; Mr. W. A. Taylor, F.R.C.V.S., Manchester ; Mr. George A. Banham, F.R.C.V.S., Cambridge ; Mr. W. B. Walters, F.R.C.V.S., Army Veterinary Department ; Mr. Archibald Robinson, M.R.C.V.S., Greenock ; and Mr. Rutherford, M.R.C.V.S., Edinburgh. The following gentlemen were also present as *ex officio* members :—Principal M'Call, Professors Cooke, Limont, Macqueen, and Renfrew, Glasgow Veterinary College.

Eleven gentlemen presented themselves for the diplomas of the Royal College of Veterinary Surgeons, and of this number the following passed :—

Mr. Samuel Hirst, Barnet, Herts ; Mr. Robert M'Nair, Helensburgh ; Mr. Joseph Larkin, Carlingford ; Mr. Gregor M'Gregor, Kippen ; Mr. Robert Weir, Island of Coll ; Mr. William Frazer, Largs ; Mr. Thomas M'Cauley, Belfast.

Twenty-four students presented themselves for the second professional examination, of which number twenty-one passed, viz. :—

Mr. William Ferguson, Greenock ; Mr. David Weir, Ochiltree ; Mr. Robert S. Mitchell, Islay ; Mr. John M'Kinna, New Galloway ; Mr. Daniel M. Gray, Glasgow ; Mr. Edwin Sayer, Rainham, Kent ; Mr. Hugh O. Richard, Merioneth ; Mr. Donald Macintyre, Loch Awe ; Mr. Andrew Reid, Tarbolton ; Mr. William Hodgson, Cumberland ; Mr. D. J. M'Cambridge, County Antrim ; Mr. Thomas Dobie, Birkenhead ; Mr. William Carruthers, Lesmahagow ; Mr. A. B. Green, Irvine ; Mr. Alexander Marshall, Glasgow ; Mr. William and Mr. Joseph Ward, Manchester ; Mr. Thomas F. Renehan,

County Kilkenny; Mr. Andrew Newlands, Glasgow; Mr. Charles J. Doyle, County Dublin; and Mr. John A. Cunningham, Glasgow.

Mr. Thomas Giblin, Glasgow, was also examined for the first professional examination, and was successful in passing. Medals granted by the Highland and Agricultural Society of Scotland, the late Professor Allen Thomson, of London; Mr. Robert Walker, of Lethamhill, and Principal M'Call, and certificates of merit by the College were awarded in the different branches of study as follows:—

Horse Pathology (written examination).—Gold medal (Principal M'Call), Mr. Samuel Hirst; first-class certificates, Messrs. O'Connor, Larkin, and M'Nair; second-class certificate, Mr. Weir.

Cattle Pathology (written examination).—Gold medal (Principal M'Call), Mr. Robert M'Nair; first-class certificates, Messrs. Hirst, Larkin, Houston, and O'Connor; second-class certificates, Messrs. Weir and M'Cauley.

Practical Examination of Horses as to soundness, age, manipulation, etc.—Gold medal (Principal M'Call), Mr. Joseph Larkin.

Practical Examination of cattle and sheep as to age, operations, etc.—Gold medal (Mr. Robert Walker), Mr. Robert M'Nair.

Histology and Physiology.—Silver medal (Highland and Agricultural Society of Scotland), Mr. John M'Kinna; first-class certificate, Mr. John A. Cunninghnm; second-class certificates, Messrs. Carruthers, Sayer, and Joseph Ward.

Anatomy (special and comparative).—Silver Medal (Highland and Agricultural Society of Scotland), Mr. William Ward; first-class certificates, Messrs. Cunningham and Sayer; second-class certificates, Messrs. M'Kinna, Weir, and Richards.

Best oral examination on anatomy, physiology, and histology.—Gold medal (Professor Allen Thomson), Mr. Edwin Sayer.

At the close of the examinations the President of the Royal College of Veterinary Surgeons (Mr. George Fleming) intimated that Messrs. Sayer, M'Kinna, Hodgson, William Ward, and Doyle had passed with great credit.

MONTREAL VETERINARY COLLEGE.

THE final examinations of the seventeenth session of the Montreal Veterinary College were held on March 27th, when the following gentlemen passed in the subjects named:—

In Botany, Prof. Penhallow, McGill College, the examiner—E. W. Hoare, C. C. Dyer, and Geo. S. Baker.

In Physics, Prof. Girdwood, McGill College, examiner—Garland, Whyte, Baker, Dyer.

In Histology, Prof. Osler, McGill College, examiner—Baker, Dyer, Garland, and White.

In Chemistry, Prof. Girdwood, McGill College, examiner—E. W. Hoare, C. G. Lamb, W. F. Scott, John Magor, jr., C. S. Garland, A. A. Keys, E. Crundall, Wm. B. Abbe.

In Physiology, Prof. Osler, McGill College, examiner—E. W. Hoare, A. E. Cross, C. G. Lamb, John Magor, jr., W. F. Scott, M. O. Blanchard, A. A. Keys, E. Crundall.

In Materia Medica, Dr. James Bell, examiner—E. W. Hoare, W. H. Klock, C. G. Lamb, C. S. Garland, E. Crundall, W. F. Scott, A. A. Keys, John Magor, jr.

In Anatomy, Mr. M. C. Baker, V.S., examiner—C. McEachran, W. H. Klock, E. Crundall, A. E. Cross, J. A. Duncan, M. G. Blanchard, E. P. Ball, A. W. Mears.

In Practice of Medicine and Surgery and General Pathology, Principal

McEachran, F.R.C.V.S., examiner—J. A. Duncan, W. H. Klock, M. G. Blanchard, A. E. Cross, E. Crundall, C. McEachran, E. P. Ball, A. W Mears.

In the French classes the following students passed the examinations :—

In Entozoa, Prof. Osler and Mr. Clement, V.S., examiners—Blanchard, McEachran, Ball, and Mears.

In Anatomy, Mr. Daubigny, V.S., examiner—C. LeMorin, Jos. Labelle.

In Pathology and Practice of Medicine and Surgery, Mr. Daubigny, V.S., examiner—Jos. Labelle, C. LeMorin.

In Materia Medica, Mr. Daubigny, V.S., examiner—C. LeMorin, Jos. Labelle.

Oral Examinations.

The final oral examinations were held by the board of examiners appointed by the Council of Agriculture on March 27th, when the following students passed the examinations in botany, histology, physics, chemistry, physiology, materia medica, anatomy, practice of medicine and surgery and general pathology, and were found fully competent to practise as veterinary surgeons and granted the diploma of the College, namely, Messrs. Ball, Bancroft, Blanchard, Cross, Crundall, Drouin, Duncan, Klock, Labelle, Mears, Morin, and McEachran.

The presentation of prizes and award of diplomas took place in the afternoon. Mr. S. N. Blackwood, of Sheffield, presided and, on behalf of the Council of Agriculture, presented the following diplomas and prizes :—

In the English class, Seniors, best general examination, prize, a silver medal, the gift of the Council of Agriculture, won by J. A. Duncan.

Pathology and Practice of Medicine and Surgery, 1st prize, book, won by J. A. Duncan ; 2nd prize, book, won by W. H. Klock.

Anatomy—Prize, medal, won by Chas. McEachran.

Entozoa—Prize, medal, the gift of Dr. Osler, won by M. G. Blanchard.

Materia Medica—Prize, book, won by E. W. Hoare.

Juniors—Anatomy prize, book, won by C. G. Lamb.

Pathology prize, book, won by E. W. Hoare.

French class, Seniors—Best general examination, a silver medal, the gift of the Council of Agriculture, won by C. L. Morin.

Pathology, prize, instrument, won by J. Labelle.

Anatomy, prize, book, won by C. L. Morin.

Juniors—Best general examination, prize, instrument, won by J. Turcott.

Freshmen—Best general examination, prize, instrument, won by Louis Lorrain.

At a meeting of the Montreal Veterinary Association held subsequently, Mr. M. C. Baker, V.S., in the chair, the following gentlemen were granted the diploma of honorary fellowship of the association : Messrs. Ball, Blanchard, Cross, Crundall, Mears, McEachran, Drouin, Morin, and Labelle.

ONTARIO VETERINARY COLLEGE.

THE close of the session 1883-84 of the Ontario Veterinary College took place on March 27th, when a convocation of students, graduates, and examiners was held in the assembly-room, where the results of the year's work was made known, and the successful prizemen presented with their trophies. Among those present were :—His Worship Mayor Boswell, Mr. Wade, secretary of the Agricultural and Arts Association ; Prof. Smith, Dr. Duncan, Dr. Barrett, Dr. Thorburn, and Examiners Wilson and O'Neill, of London ; Lloyd, Newmarket ; Chas. Elliott, St. Catharine's ; W. Cowan, Galt, and

A. O. F. Coleman, Ottawa. After the opening exercises, Dr. Duncan announced the list of medallist prizemen graduates for the year.

The gold medal presented by the Ontario Veterinary Medical Association for best general examination was taken by Mr. J. F. Reid, of Belleville.

The complete list is as follows :-

Graduates.

S. G. Anderson, Lambton; Robt. E. Ardeil, London; Chas. M. Bailey, Haver Hill, Mass., U.S.; G. G. Blank, Allentown, Penn., U.S.; Geo. W. Butler, Stirling; Daniel W. Burt, Hillsburg; T. Bradley, Gananoque; M. L. Bougham, West Lebanon, Ohio, U.S.; James Brown, Guelph; Sam. C. Bogart, Chatham; James W. Brodie, Almira, Ont.; James Cruickshank, Heathcote; Ed. Courtenay, Ashland, Kay; P. C. Dodge, Creston, Ill., U.S.; D. C. DeWitt, La Fayette, Ind.; L. C. DeCow, Thamesville, Ont.; Wm. W. Dickey, Newtonville; W. G. Dodds, Orangeville; Charles Elliot, Madisonburg, Ohio, U.S.; Albert Eisenman, Louisville, Kentucky, U.S.; Orr Graham, Port Perry; M. Green, Cesselton, Dakota, U.S.; Sol. K. Hoffman, Shoemakersville, Penn., U.S.; John Hackett, Vittoria; Adam Harthill, Louisville, Ky., U.S.; Fred. Hewitt, Maple; L. B. Irons, Linesville, Penn., U.S.; W. R. Kincaid, London; Robt. H. Kestell, Simcoe; Niles Livingston, Jura; W. R. Laidelaw, Aylmer; R. M. Mason, Mono Mills; W. Mitchell, Mono; Sam. Murphy, Port Hope; Duncan McArthur, Ailsa Craig; Wm. Machan, Mitchell; Ed. Ming, Belleville; William Nicol, Beeton; John F. Ormsby, Ancaster; Frank Parker, Maidstone; N. E. Patterson, Bellantel; J. F. Reid, Belleville; H. E. Rowell, Albion, N.Y.; Henry G. Reed, Georgetown; Albert Reycraft, Highgate; John Sutcliffe, Brooklyn, N.Y.; E. A. Steinburg, Frankford; Wm. Stork, Brampton: E. Sharrad, Stonfullo; N. Silverthorne, Somerville; Andrew Sparham, Caledonia; Alfred Tennant, Birr; L. G. Tiffany, Jacksonville, Ill., U.S.; Charles Thompson, Zephyrs; John Wende, Mill Grove, N.Y.; S. E. Weber, Greenlane, Penn., U.S.; John Wilson, James Wilson, Wingham; Harry Waldron, Ayr.

Prize and Honour List—Seniors.

Pathology.—E. A. Steinburg, Frankford, Ontario, first prize, silver medal; G. W. Butler, Stirling, second prize; L. C. Tiffany, Jacksonville, Illinois, third prize. Honours—R. E. Ardeil, London; G. G. Blank, Allentown, Penn.; C. M. Bailey, Haverhill, Mass.; T. H. Bradley, Gananoque, Ont.; Ed. Courtenay, Ashland, Kentucky; P. C. Dodge, Creston, Illinois; D. C. De Witt, La Fayette, Ind.; A. Eisenman, Louisville, Kentucky; Adam Harthill, Louisville; S. K. Hoffman, Shoemakersville, Penn.; R. M. Mason, Mono Mills, Ont.; Wm. Mitchell, Mono; D. McArthur, Ailsa Craig; J. Y. Ormsby, Ancaster, Ont.; J. F. Reid, Belleville; H. G. Reed, Georgetown; H. E. Rowell, Albion, N.Y.; H. Waldron, Ayr, Ont.; Jas. Wilson, Wingham; John Wilson, Wingham.

Anatomy.—Silver medal (from Agricultural and Arts Association): G. W. Butler, Stirling; second, J. F. Reid, Belleville, and L. C. Tiffany, Jacksonville, Ill. (equal); third, E. A. Steinburg, Frankford. Honours—Jas. W. Brodie, Almira, Ont.; Ed. Courtenay, Ashland, Ky.; P. C. Dodge, Creston, Ill.; Orr Graham, Port Perry; S. K. Hoffman, Shoemakersville, Penn.; John Hackett, Vittoria, Ont.; Adam Harthill, Louisville, Ky.; W. R. Kincaid, London, Ont.; J. T. Ormsby, Ancaster, Ont.; Frank Parker, Maidstone; Albert Reycraft, Highgate; H. G. Reed, Georgetown; H. E. Rowell, Albion, N.Y.; W. W. Stork, Brampton; John Sutcliffe, Brooklyn, N.Y.; Andrew Sparham, Caledonia, Ont.; James Wilson, Wingham; John Wilson, Wingham; H. Waldron, Ayr.

Entozoa.—First prize, Ed. Courtenay, Ashland, Kentucky. Honours—G. G. Blank, Allentown, Penn.; G. W. Butler, Stirling, Ont.; Fred. Hewitt, Maple, Ont.; R. M. Mason, Mono Mills; D. McArthur, Ailsa Craig; J. T. Ormsby, Ancaster; Frank Parker, Maidstone; J. F. Reid, Belleville; H. G. Reed, Georgetown; E. A. Steinburg, Frankford; L. C. Tiffany, Jacksonville, Illinois.

Microscopy.—First prize, G. G. Blank, Allentown, Penn. Honours—R. E. Ardeil, London, Ont.; Frank Parker, Maidstone; H. G. Reed, Georgetown; W. W. Stork, Brampton; L. C. Tiffany, Jacksonville, Illinois; John Wilson, Wingham; James Wilson, Wingham.

Physiology.—Silver medal, G. W. Butler, Stirling, Ont.; second prize, D. McArthur, Ailsa Craig; third prize, H. Waldron, Ayr. Honours—W. Silverthorne, Somerville; E. A. Steinberg, Frankford; J. T. Reid, Belleville; H. G. Reed, Georgetown; Jas. Wilson, Wingham; John Sutcliffe, Brooklyn, N.Y.; L. C. Tiffany, Jacksonville, Illinois; D. W. Burt, Hillsburgh, Ont.; G. G. Blank, Allentown, Penn.; W. R. Kincaid, London; Ed. Courtenay, Ashland, Kentucky; C. E. Thomson, Zephyr, Ont.; Frank Parker, Maidstone.

Chemistry.—First prize, D. McArthur, Ailsa Craig.

Anatomical preparation.—Silver medal, W. Waldron, Ayr, Ont. (work being of unusual excellence); second prize, Jas. Wilson, Wingham; third prize, John Wilson, Wingham.

Materia Medica.—First prize, J. F. Reid, Belleville; second prize, Ed. Courtenay, Ashland, Kentucky; third prize, L. C. Tiffany, Jacksonville, Illinois. Honours—G. W. Butler, Stirling, Ont.; C. M. Bailey, Haverhill, Mass.; J. T. Ormsby, Ancaster, Ont.; W. W. Stork, Brampton, Ont.; H. G. Reed, Georgetown.

Breeding and Managing of Stock.—First prize, 20 dols., in books (by Hon. Commissioner of Agriculture), J. F. Ormsby, Ancaster, Ont.; second prize, 15 dols., in books (council of Agricultural and Arts Association), G. W. Butler, Stirling; third prize, 10 dols. in books (Agricultural and Arts Association), N. Silverthorne, Somerville; gold medal, for best general examination (presented by the Ontario Veterinary Medical Association), J. F. Reid, Belleville. Honours—G. G. Blank, Allentown, Penn.; G. W. Butler, Stirling, Ont.; Adam Harthill, Louisville, Kentucky; H. G. Reed, Georgetown; E. A. Steinburg, Frankford; James Wilson, Wingham.

Juniors.

Anatomy.—Silver medal (from Agricultural and Arts Association), Tate S. Butler; second prize, Josesph N. Medill; third prize, Chas. H. Pierce. Honours—Chas. Burger, R. Grant, Fred. Hall, J. Ireland, D. C. McLean, J. Miller, G. Standish, E. G. Sterner, L. Thompson.

Pathology.—First prize, T. S. Butler; second, E. G. Sterner; third, Louis A. Thompson. Honours—C. E. Burger, H. C. Carpenter, P. J. Gallagher, R. Grant, F. Hall, Albert Harthill, D. W. Hess, J. Ireland, D. E. McLean, G. McGillivray, C. E. Munn, R. J. Michener, F. Matthews, C. H. Pierce, T. E. Queen, T. W. Scott, George Standish, G. F. Snider, Wm. Stevens, W. J. Wilson.

Physiology.—First prize, E. J. Sterner; second, D. E. McLean; third, T. S. Butler. Honours—C. E. Munn, J. N. Medill, J. Ireland, L. H. Thompson, P. Gallagher, W. J. Wilson.

Chemistry.—First prize, D. E. McLean.

The following persons passed the primary examination in anatomy:—Albert Curtis, Simcoe; Eli Chrisman, Sharon Centre, Ohio; E. D. Hayden, Syracuse; George Rennicke, Huntingdon, Que.; J. E. Campbell, Alliance, O.; D. Seltzer, Watkins, N.Y.; F. O'Brien, Lasker, Ont.

Addresses.

On the conclusion of the prize-distribution, Mayor Boswell addressed a few words to the students. He said it afforded him very much pleasure to observe the friendly spirit, as well as keen interest, which they evinced in the afternoon's proceedings. He hoped that one and all would go on with their studies in the profession they had chosen, and secure, if possible, even higher results than the present. It was most satisfactory to note that so many young men were taking an interest in the treatment of animal diseases. It was most creditable to the college that out of the roll list seventeen had come across from the States. They were heartily welcomed, and it was to be hoped that students would continue to come from across the line. It was a salient mark of Prof. Smith's popularity in the States that he had a circle of friends among his old students in almost every district he entered. He congratulated the college on its success and wished it every prosperity.

Dr. COLEMAN, of Ottawa, rose to move a vote of thanks to Prof. Buckland, to whose untiring efforts was in no small measure due the successful working of the college.

Prof. SMITH heartily seconded the motion. He believed that no one had more right to the thanks of the college, and the students, particularly, than Prof. Buckland.

The motion was received by the convocation with warm applause.

Prof. BUCKLAND, in reply, made a few pointed remarks, in the course of which he drew attention to the coincidence which existed between the veterinary art and agriculture. He advised the students to follow up their studies and seek for the higher and more complete development of their profession.

The convocation then adjourned.

Army Veterinary Department.

Gazette, May 6th.

VETERINARY Surgeon (First Class) H. Sewell to be placed on retired pay, with the honorary rank of Inspecting Veterinary Surgeon; Veterinary Surgeon on probation J. T. Twiss to be Veterinary Surgeon; F. Joslen, gentleman, to be Veterinary Surgeon on probation.

It is very satisfactory to observe that Major-General Sir G. Graham, in his despatches describing the recent operations in the Soudan, states that "The duties of the Veterinary Department were satisfactorily carried on by Principal Veterinary Surgeon Clayton, and those under him."

A supplement to the *Gazette* of May 21st, contains the honours and rewards bestowed upon the officers serving in the late operations in the Soudan, and among these it is most gratifying to find that the Veterinary Department has not been overlooked, as the following testifies.

To be Veterinary Surgeons (First Class), ranking with Majors, but junior of that rank, except for choice of quarters.

First Class Veterinary Surgeon, ranking with Captain, Charles Clayton.

First Class Veterinary Surgeon, ranking with Captain, Henry Thomson.

This is the first time promotion to the relative rank of major has appeared in the *Gazette* with regard to veterinary officers, and is evidence of the desire of the Horse Guards and War Office to do ample justice to the merits of the Veterinary Department.

The annual dinner of the officers of the Veterinary Department will take place at the Holborn Restaurant on June 13th, at eight o'clock.

Obituary.

THE deaths are reported of S. F. Fallding, M.R.C.V.S., Wakefield, who graduated in 1861; W. Richardson, M.R.C.V.S., Peterborough, who graduated in 1837; and H. J. Hinckley, M.R.C.V.S., Radborne, a graduate of 1868.

François-Michel Miltenberger, veterinary surgeon, died recently at Paris, aged ninety-eight years and six months, having been born at Ernstein, Alsace, in 1785. Entering the Alfort Veterinary School, he graduated in 1806, and on being appointed Veterinary Surgeon in the Imperial Guard, he was with the French army in Spain during the war in 1808; in that in Austria in 1809; in Spain again from 1810 to 1812; in the Russian campaign in 1812; in Saxony in 1813, and in the war of 1814 and 1815 in France, when Napoleon was overthrown. Quitting the army, he was appointed District Veterinary Surgeon at Schlestadt, Alsace, where he remained until 1869, when he retired to Paris, after a long and a meritorious career as a veterinary surgeon, in peace and in war. In 1871 he was made a Chevalier of the Legion of Honour.

Notes and News.

COMMEMORATIVE MEDAL TO M. BOULEY.—In order to commemorate the election of the distinguished veterinarian, M. H. Bouley, as Vice-President of the Academy of Sciences of France, it is proposed to offer him a medal of great artistic value, bearing his portrait and an inscription. The veterinary profession in all countries is solicited to subscribe to this well deserved testimonial, the amount of subscription being limited to sixteen francs, and each subscriber receiving a bronze replica of the medal. Subscriptions are received by M. L. Houzeau, Asselin and Co., Place de l'Ecole-de-Medécine, Paris.

THE VETERINARY PROFESSION AT THE ROYAL ACADEMY.—Though for some years the Army Veterinary Department has had in its ranks several officers who are excellent painters, yet until now none of them have come before the public with their works. It is, therefore, a matter for satisfaction and congratulation that First Class Veterinary Surgeon Adrian Jones, at present attached to Royal Horse Artillery, St. John's Wood, London, appears this year at the Royal Academy Exhibition with a beautiful model or statuette of a horse, admirably posed and proportioned, and to which artists of the highest distinction have awarded most flattering testimony of merit.

IMPORT AND EXPORT OF HORSES.—From the Board of Trade returns it appears that during the month of April the number of horses imported into the United Kingdom was 965, against 417 in April last year. This brought the total for the first four months of the year up to 3,249, against 1,696 in the corresponding period of 1883. The value of the horses imported last month was £29,164, against £12,680 in April last year. The value of the horses imported in the first four months of the year was £86,135; last year it was £53,105. In April we exported 892 horses, against 877 in

April last year. Of that number 233 went to Belgium, 103 to France, 154 to the United States, 36 to British North America, and 366 to other countries. The value of the horses exported in April was £45,414; last year it was £51,056. During the first four months of the year we exported 2,165 horses, valued at £117,451. Last year we exported 2,002, valued at £119,805.

Correspondence, etc.

VETERINARY INSPECTORS' FEES.

SIR,—Will you kindly afford me the privilege of asking those of your readers who are veterinary inspectors in counties or boroughs, or otherwise in a position to supply the information desired, to contribute to your pages concise, but complete, statements of the authorised fees payable to the veterinary inspectors of their respective districts? In my own town there is no fixed scale, and the cases of contagious disease which have occurred since my appointment as Borough Veterinary Inspector have been very few. The fees I have charged and received are as follows:—

	s.	d.
For examining each animal (Pleuro-pneumonia) and certificate	10	6
For mileage, for each mile travelled	0	6
For certificate when no examination fee was payable ...	5	0

I consider these fees fair and reasonable, but those paid by some local authorities appear to have been fixed many years ago, and are disgracefully small. In view of recent legislation, and the coming meetings of the National Veterinary Association in Manchester, the present time does not seem to be unsuitable for us to compare notes, and make a combined effort to obtain fair and reasonable remuneration for the services of those veterinary inspectors who do not receive it.—I am, sir, your obedient servant,

May 14th, 1884. "A VETERINARY INSPECTOR."

THE ANNUAL DINNER.

SIR,—Dinner is a most important matter to all men, whether they be savage or civilised, poor or rich. A man may be excused if he looks blue when he has not the wherewithal to get the chief meal of the day; but it is a colour rarely assumed by members of our profession because they cannot pay for it. Dinner not being a matter to be dispensed with, it is not surprising that, for once in a way, it was good-humouredly brought forward and considered at our meeting on the 5th instant by some of the most prosperous-looking members attending. One thought twenty-five shillings too much, and that the charge should be ten shillings and sixpence for the food, and that any liquor, other than water, should be paid for by those requiring it. That total abstainers should pay an equal contribution with others of less strength of mind, was not considered by one or two speakers as quite in accordance with strict justice; but if we are to make every man pay for exactly

what he receives in all the social relations of life we shall have endless trouble, bickerings, and annoyance, and in the case of an annual professional dinner, such an arrangement would involve an entire loss of dignity in the proceedings. They who have had experience of such procedure as that just named may well look with apprehension at the idea of seeing it applied at our May meeting. I have had experience of such arrangements, and should be very sorry to see them carried into effect at our chief professional dinner. You have the waiters worried to death taking orders; the constant jingling and passing of money, and disputes about change and payment, and all sorts of nondescript drinks on the table, creating a veritable hugger-mugger.

Then you have invited guests, some of them distinguished, and each is "told off" to the charge of some member of the profession or society, who is whisperingly enjoined by the president to give them champagne, etc., the cost of which will be reimbursed afterwards by the dinner committee from the fund, or it may be, if there is no fund, that he, the president, will generously pay it out of his own pocket! This leads to great present and after confusion; the guest looks wonderingly on at seeing champagne before himself, and bottles of beer, zoedone, etc., before others. Soon it dawns upon him that he is an exception, and he begins to look upon himself as a trespasser on his neighbour's pocket; he becomes uneasy, and his enjoyment vanishes, while, at the same time, the feelings of humiliation on the part of his hosts make them exceedingly uncomfortable. The dinner at last happily comes to an end, and it is fortunate if there is not some unpleasantness over what has been paid. This is no exaggerated picture, and is what always occurs where such poor economy is attempted. It is therefore earnestly to be hoped that our annual dinner will not be turned into such an undignified exhibition, for if such a proposal be entertained, many who now make a point of being present will cease to attend. Twenty-five shillings is the least figure for which an annual dinner can be creditably carried out, as it must be in a good room, and everything must be of the best, or those who care about their digestion will not go again. I have talked to many members of the profession who attend and who do not attend the meetings, as to why they were not present at the dinner, but not one has ever pleaded the cost as an excuse for absence from the social board. If the Dinner Committee inquire, they will doubtless find that any change in the present system is only too likely to lead to a great diminution of members, besides making the profession ashamed of what should be one of the most enjoyable of its gatherings.—Your obedient servant,

"A Northern Veterinary Surgeon."

May 16th, 1884.

DOCKING HORSES' TAILS.

Sir,—It is very remarkable that your correspondents on the subject of docking speak only of it as an operation to improve the appearance of horses.

The most frequent cause for docking (except with horses in the possession of dealers) is a dangerous habit of swishing the tail, and getting the reins under it—an awkward circumstance, leading to the most disastrous accidents. Most of your readers can call to mind horses with whom it was impossible to keep the reins clear of their tails in the fly season, and to drive them was a perfect misery. I have been reluctantly compelled to have more than one of my own horses docked for this reason, *after* they have let out and done a

lot of damage. One mare which did this, got her shoe fixed between the floor of the cart and the crossbar, and in her struggles got an open hock-joint before she could be released.

Surely some discretion ought to be allowed to educated professional men, competent to decide whether or no the necessity exists in certain horses for this operation.

The admirable R.S.P.C.A. has of late assumed a dictatorship and a position beyond and antagonistic to the noble purpose for which it was established. The members of the medical and veterinary professions are held up to scorn as the disciples of torture, and the patrons of legitimate sport brought into contempt by the maudlin sentiment which finds expression in the pages of the *Animal World*.

Mr. Mannington's manly declaration that he intends to continue to dock horses "when he considers it necessary," is worthy the consideration of veterinary surgeons before they consent to have their actions trammelled by the old ladies whose subscriptions form so large a part of the income of the R.S.P.C.A., and whose notions appear to predominate in its councils.—Yours, etc., HAROLD LEENEY, M.R.C.V.S.

RED MANGE IN DOGS.

DEAR SIR,—May I be allowed to ask you, as the greatest authority of the day, whether the "Red Mange" of the dog is caused by a parasite, or is a derangement of the blood, and if you think it can be cured by internal treatment alone?

I have referred to Williams, Gamgee, "Stonehenge on the Dog," and my own notes, all of which differ more or less. Apologising for troubling you, I remain, yours, etc., "ZERO."

[While refusing any claim to the attribute our correspondent would endow us with, we nevertheless venture to attempt to give a reply to his questions. We have seen several different affections of the dog's skin which were designated "Red Mange"; but that form of cutaneous disorder which is most commonly met with under this name is "Eczema"—a non-parasitic, non-infectious disease, particularly troublesome, sometimes, to cure. It is generally due to mismanagement in diet and exercise. Hill describes it in his book on the "Management and Diseases of the Dog."—ED. *V. J.*]

STRAIGHTENING HORSES' TAILS.

DEAR SIR,—Operations on horses' tails having been frequently discussed in your Journal of late, permit me to say with reference to *nicking* and *straightening tails*, that, instead of cutting, I now use a *small, sharp-edged seton needle* and *tape*. The needle is passed deep through the part, well up, and back again two inches or so lower down, but not so deep. The tape may now be cut and tied like an ordinary seton, or its ends left free. Its presence prevents rapid healing, and weakens the muscle. The tail may occasionally be drawn and fastened in whatever position it requires to be set,

and the tape be allowed to remain a week or two. I find this method very successful, besides being simple, and perhaps less painful. Should you think it worth presenting to your readers, please do so, and oblige, yours very respectfully,

WILLIAMSON BRYDEN.

Boston, U.S.A., *April 20th.*

IS THE PROFESSION PROGRESSING OR RETROGRADING?

DEAR MR. EDITOR,—I beg to ask that, with your usual sense of fairness, you will allow this to appear in your next issue. Also the enclosed newspaper copy, taken from the *North Star*, published at Darlington, Co. Durham, dated the 5th inst., giving particulars of two cases of cruelty brought before the magistrates of a small town in the North Riding of Yorkshire on the 3rd inst.—I am, dear sir, yours faithfully,

THOMAS BARKER.

26, Beaumont Street, Portland Place.
May 10th, 1884.

ALLEGED CRUELTY BY LOCAL VETERINARY SURGEONS.

Important Prosecution.

On Saturday, before Messrs. Douglas Brown, James Emerson, and J. P. Sowerby, John Linfoot, a veterinary practitioner, residing at Stokesley, was charged by Inspector Grover, of Scarborough, with cruelty to a cow belonging to the Rev. George Proude, of Faceby, on the 25th of February. Mr. Morton Smith, barrister, prosecuted for the Royal Society for the Prevention of Cruelty to Animals, the defendant being represented by Mr. R. W. Wilkes, Darlington.

Mr. Smith said defendant was called in to see a cow that had calved, belonging to Mr. Proude, and found the uterus protruding. In trying to return it he put the animal on its back, but did not succeed in returning the uterus, and therefore cut it off. He attempted to do this first with a blunt knife, and failing, had to borrow another knife, and fifteen minutes after the operation was performed the cow died. To prevent hæmorrhage defendant used a piece of knotted string, a most improper ligature.

Dr. Fleming, President of the Royal College of Veterinary Surgeons, was called, and said the position of the cow lying on its back would prevent the return of uterus. The ligature was also dangerous, as it ought to have been perfectly smooth. Death would result from internal hemorrhage. If the uterus could not be returned he would recommend the animal being slaughtered.

Mr. Peter Stalker Cowan, M.R.C.V.S., of Colchester, said the fact of the uterus being out a few hours afforded no difficulty in returning it. The cow was in no danger through it being out, and could have waited until proper instruments were brought. A blunt knife would cause acute pain. In his opinion the operation was unnecessary, unskilful, and careless.

The Bench decided that the defendant had acted according to the best of his ability, and dismissed the case.

William Thompson, farmer, Stokesley, and James Coulson, veterinary surgeon, were then charged with cruelty to a horse.

Mr. Smith, in opening the case, said defendants were summoned for docking a horse. The custom of docking was very prevalent in England, but was confined to this country. The prosecution did not press for pecuniary penalties, but for a conviction similar to those which had been granted in a very large number of cases in various parts of the country. He then cited a number of authorities to show that the custom of docking was unnecessary, the only advantage gained being in a pecuniary sense. The horse, in this instance, had died from Lock-jaw.

Dr. Fleming said he was the chief veterinary surgeon at the War Office, and had about 15,000 horses under his charge. He had paid special attention to docking, especially in connection with army horses. The practice was formerly prevalent, but had been prohibited for upwards of twenty years. Not merely veterinary surgeons, but also soldiers and officers, were strongly against docking. Officers with docked horses were last year ordered off parade. In performing the operation great difficulty was experienced in cutting at the joint, operators having generally to cut through the bone. Cautery is generally used to stop the bleeding. Docking was a great disadvantage to horses, as they then lose their natural defence against flies. In cases where horses have not been docked it was found that their tempers were much improved. From evidence he had collected, he had found the majority of accidents happen with horses whose tails have been docked.

Mr. Cowan said he was a member of the committee appointed at the Congress of Veterinary Surgeons to inquire into the practice of docking horses. It was almost unanimously agreed that docking was unnecessary, and ought to be abolished, as it was principally done for fashion's sake.

Mr. Hunting, M.R.C.V.S., said he had an extensive practice in London, and found docking was generally performed there by dealers, who got more money for docked horses. His own experience was that docked horses got their tails more easily over the reins, and held them down more tightly.

In cross-examination, witness admitted there was a general difference among veterinary surgeons as to the necessity for docking. The cutting of lambs' tails was justified to obviate a greater evil.

Profesor Pritchard was expected to give evidence in both cases, but did not arrive in time.

After some deliberation the Bench decided that it was desirable that the opinion of a higher court should be taken as to whether docking is within the Act, and they therefore dismissed the summons, subject to a case.

CHOREA IN A GOAT.

DEAR SIR,—I send you the information asked for relative to the case of Chorea in a goat I sent you, which was published in the February number of the VETERINARY JOURNAL. The animal had been in possession of its present owner since it was a few days old, and had been affected in the manner described since its birth. The kid I saw was the second one it had, but the peculiar spasm of the hind quarters had been noticed before the first pregnancy, and the act of parturition and suckling the first kid appeared not to have had any effect either for good or bad. There was no disturbance of either respiration or circulation, or any loss of consciousness as described in the chapter on "Parturient Eclampsia" in Fleming's "Veterinary Obstetrics." I would feel greatly obliged for any information through the columns of the VETERINARY JOURNAL, as in the limited number of professional

works that I have access to in this country I can find no mention of anything resembling this case. Apologising for troubling you, I remain, yours sincerely,

JOSHUA A. NUNN, A.V.D.,
Veterinary Surgeon to Punjab Government.

Lahore, *April 10th.*

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from Professor McCall, Glasgow; A. W. Hill, London; J. B. Gresswell, Louth; R. H. Dyer, Limerick; J. Macqueen, Glasgow; R. Glass, Glasgow; E. Beddard, Wolverhampton; J. A. Nunn, Lahore; R. W. Burke, Cawnpore; J. H. Steel, Secunderabad; G. H. Fenton, Secunderabad; W. Bryden, Boston, U.S.A.; J. W. Hill, Wolverhampton; T. Greaves, Manchester; R. Rutherford, Edinburgh; W. Lewis, Crewe; "Zero;" "A Veterinary Inspector;" T. Barker, London; C. H. Sweetapple, Ontario.

BOOKS AND PAMPHLETS: *MM. Goubaux and Barrier*, De l'Extérieur du Cheval; *Dr. Wehenkel*, Etat Sanitaire des Animaux Domestiques; *Dr. Putz*, Uber Hufkrebs und Strahlfäule; Zur Therapie des Hufkrebses der Pferde; *F. S. Billings*, The Relation of Animal Diseases to the Public Health; *G. Gore*, The Utility and Morality of Vivisection.

JOURNALS, ETC.: *Recueil de Médecine Vétérinaire; Journal of Comparative Medicine and Surgery; Wochenschrift für Thierheilkunde und Viehzucht; L'Echo Vétérinaire; Annales de Médecine Vétérinaire; La Clinica Veterinaria; Archives Vétérinaires; Der Thierarzt; Revue Vétérinaire; Quarterly Journal of Veterinary Science in India; Archives de Médecine et de Pharmacie Militaires; Lancet; Live Stock Journal; Medical Press and Circular; American Live Stock Journal; American Veterinary Review; Edinburgh Medical Journal; British Medical Journal; Presse Vétérinaire; Mark Lane Express; Deutsche Zeitschrift für Thiermedicin und Vergleichende Pathologie; Repertorium der Thierheilkunde; Archiv für Pathologische Anatomie und Physiologie.*

NEWSPAPERS: *The Protestant; Glasgow Herald; Montreal Daily Star; Ontario Mail; Horse and Hound; Leeds Mercury; South Eastern Gazette.*

All Communications, Books for Review, Advertisements, etc., should be addressed to the Publishers.

Morbid Specimens should be forwarded to the Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, though not necessarily for publication. Anonymous Letters and Articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors.

Communications for insertion in the next number should arrive on or before the 15th of the present month.

INDEX.

Actinomykosis in Man, 128.
Alleged Cruelty by Local Veterinary Surgeons, 470.
Amputating Horses' Tails, 147, 308.
Annual Dinner, 467.
Animal Heat and Muscular Power, Sources of, 197.
Annual Meeting of Scottish Veterinary Associations, 282.
Anthrax Bacillus, 145.
Anthrax, Observations on. R. Poyser, 88, 177, 258.
Anus, Imperforate. J. Roberts, 83.
Appointment of Veterinary Inspector by Town Council of Hamilton, 148.
Apoplexy in Cattle, commonly known as Milk Fever, 208.
Apoplexy, Parturient, or Milk Fever in Cows, 305.
Apoplexy, Parturient. R. Glass, 394.
Arab Animal-Doctoring, 296.
Army Veterinary Department, 69, 144, 222, 286, 382, 465.
Army Veterinary Department in India, 263.
Arsenic, Solution of Bromide of. J. Dowling, 81.
Arthritis Deformens in the Horse, 195.
Artificial Impregnation. A Dog Breeder, 256.
Ascites in a Fowl. J. W. Hill, 335.
Astley, D. Comparative Sphygmography, 410.
Attenuation by Heat, 48.
Azotæmia, 386.

Bacteria, 58.
Bacteria of Swine Plague, 193.
Banquet to Professor Bouley, 296.
Berlin Veterinary School, 148.
Bladder, Inversion of. J. W. Hill, 409.
Border Counties Veterinary Medical Society, 33, 40, 140.
British Army Horses, Statistics of, 186.
Brown Institution. Report to the Committee for the year 1883, 340.
Buffalo Flesh, 391.
Buffaloes' Milk, 150.
Burke, R. Endocarditis, Cases of, 78.

Canine Diseases, Special Notes on. J. W. Hill, 333.
Cases for Prosecution, 391.
Cats and Cholera, 295.
Cattle Disease in the Madras Presidency. J. Mills, 251, 324.
Central Veterinary Medical Society 269, 375.
Central Veterinary Medical Society's Conversazione, 267.
Chorea in a Goat, 471.
Chorea in a Goat. J. A. Nunn, 84.
Commemorative Medal to M. Bouley, 466.
Complimentary Dinner to Professor Williams, 43.
Consumption, Is it Infectious? 49.
Contagious Pleuro-pneumonia, Inoculation of, 24.

CORRESPONDENCE :—
Amputating Horses' Tails, 147, 308.
Annual Dinner, 467.
Appointment of Veterinary Inspector by the Town Council of Hamilton, 148.
Azotæmia, 386.
Buffalo Flesh, 391.
Buffaloes' Milk, 149.
Cases for Prosecution, 391.
Chorea in a Goat, 471.
Docking, 384.
Docking Horses' Tails, 468.
Docking Horses' Tails. Is it cruel in a Legal sense? 224.
Drawing off Soles, 148.
Edinburgh Veterinary Medical Society, 232.

CORRESPONDENCE (*continued*):—
Founder, Remarkable Case of, 69.
Impostors, 390.
Is the Profession Progressing or Retrograding? 470.
Mayer Fund, 307.
Parturient Apoplexy, or Milk Fever, 305, 391.
Protective Inoculation for Contagious Pleuro-Pneumonia, 306.
Professional Advertising in Ireland, 307, 385.
Professional Wanderings, 388.
Qualifications for Councilship, 302.
Red Mange in Dogs, 469.
Sloughing in Ringworm, 307.
Story, Two sides to a, 70, 151, 230, 308.
Students and Practitioners, 147.
Straightening Horses' Tails, 469.
Soundness in Horses, Question of, 303.
Scotland and the Council of the Royal College of Veterinary Surgeons, The Coming Election, 310.
Unsoleing Horses' Feet, 228.
Unsoleing for Ringbone and Sidebone, 297.
Veterinary Inspectors' Fees, 467.
Courtenay, E. Influenza, 240, 319.
Cox, W. Action of Tobacco as an External Application, 317.
Cox, J. H. Milk Fever, or Parturient Apoplexy, 11, 94.
Cruelty to Animals from a Veterinary Point of View, 423.

Dairies and Zymotic Diseases. W. A. Edgar, 6.
Davis, W. R. Tetanus, 174.
Devon County Veterinary Medical Association, 218, 352.
Dieckerhoff, Prof. Stringhalt, 190.
Dispute, Curious, 143.
Docking, 384.
Docking as necessary for Safety and Utility, 443.
Docking Horses' Tails, 469.
Docking Horses' Tails, Is it Cruel in a Legal Sense? 224.
Docking. Is it Cruelty? 444
Dowling, J. Solution of Bromide of Arsenic, 81.
Doyle, J. J. Purpura Hæmorrhagica and Tetanus, 86.
Drawing the Sole, 149.
Duties of the Profession to the Public, and Obligations of the Public to the Profession, 35.
Duties of Practitioners when differences occur between them, 34.
Dyer, H. Observations on Soundness, 418.
Dyer, R. H. Observations on Soundness, 313.

Edgar, W. A. Zymotic Diseases and Dairies, 6.
Edinburgh New Veterinary College, 296.
Edinburgh Veterinary Medical Society, 232.

EDITORIAL:—
Army Veterinary Department in India, 263.
Cruelty to Animals from a Veterinary point of View, 423.
Fashionable Mutilation of Animals, 114.
Non-identity of Variola and Vaccinia, 184.
Retrospect and Prospect, 22.
Tercentenary of the Edinburgh University, 336.
Elephants' Enemy, 382.
Empiricism and Pottery, 146.
Endocarditis, Cases of. R. Burke, 78.
English Horses, 383.
Epizoöty among Cats, 147.
Epizoötic Chorea in Retriever Pups. W. J. Welsby, 85.
Examinations of the Royal College of Veterinary Surgeons, 142.
Exhibition, International Health 1884, 68.

Fashionable Mutilation of Animals, 114.
Fenton, G. H. Tetanus in India, 398.
Fleming, G. Tuberculosis, 103, 153.
Foot-and-mouth Disease, 147.
Foot-and-mouth Disease in America, 343.
Footh-and-mouth Disease in the United Kingdom, 126.
Founder, Remarkable Case of, 69.
Frog-Setoning, 137.

Gillespie, S. Glanders Apparently Cured, 8.
Glanders Apparently Cured. S. Gillespie, 8.
Glanders in Germany, 382.
Glanders in North America, 266.
Glasgow Veterinary College, 48, 460.
Glass, R. Parturient Apoplexy, 394.
Gresswell, J. B. Splenic Apoplexy, 1.
Gresswell, J. B. Comparative Sphygmography, 410.

Hill, J. W. Ascites in a Fowl, 335.
Hill, J. W. Inversion of Bladder, 409.
Hill, J. W. Special Notes on Canine Diseases, 333.
Horses' Soles, Tearing off, 224.
Horses, Soundness in. A. G. Ross, 176.
Horse Case, 66.
Horses in Russia, 68.
Horse, Origin of the, 123.
Horse Disease, Serious, 382.
Horses' Tails, Amputating, 308.
Hydatid Disease in Australia, 383.
Hydrophobia, Recovery from, 382.
Hydrophobia, Latest Discoveries, 50.

Ichoræmia. A. M'Carmick, 10.
Impostors, 390.
Import and Export of Horses, 466.
Impregnation, Artificial. A Dog Breeder, 256.
Indian Military Veterinary Practice, Everyday Matters. J. H. Steel, 26, 128, 427.
Inflammatory Œdema, 47.
Influenza. E. Courtenay, 240, 319.
Inoculation, Protective, 68.
International Health Exhibition, 68.

JURISPRUDENCE :—
Curious Dispute, 143.
Horse Case, 66.
Horse Warranty Case, 293.
Nisi Prius Court, Derby, 222.
Sheriff-Substitute Buntine, 380.

Lancashire Veterinary Medical Association, 215, 358.
Leather, A. Rupture of the Pericardium, 318.
Lincolnshire Veterinary Medical Society, 37, 271.
Liverpool Veterinary Medical Association, 140, 279.

Maladie de Chabert, 49.
Mayer Fund, 307.
Macgillivray, A. E. Cases occurring in Practice, 234.
Macgillivray, A. E. Medicine, Different Modes of Administering, 73.
M'Carmick, A. Ichoræmia, 10.
Medicine, Different Modes of Administering. A. E. Macgillivray, 73.
Midland Counties Veterinary Medical Association, 33, 204, 439.
Milk Fever. J. H. Cox, 11, 94.
Mills, J. Cattle Disease in the Madras Presidency, 251, 324.
Montreal Veterinary Medical Association, 377.
Montreal Veterinary College, 461.
Morphia *v.* Dog Poison, 145.

National Veterinary Benevolent and Defence Funds, 284.
New Veterinary College, Edinburgh, 41.
North of England Veterinary Medical Association, 137, 374.
North of Ireland Veterinary Medical Society, 45.
Norfolk and Eastern Counties Veterinary Medical Association, 217.

NOTES AND NEWS :—
Anthrax Bacillus, 145.
Arab Animal-Doctoring, 296.
Banquet to Professor Bouley, 296.
Berlin Veterinary School, 145.
Cats and Cholera, 295.
Commemorative Medal to M. Bouley, 466.
Edinburgh New Veterinary College, 296.
Elephants' Enemy, 382.
Empiricism and Pottery, 146.
English Horses, 383.
Epizooty among Cats, 147.
Exhibition of 1884, 68.
Foot-and-mouth Disease, 147.
Glanders in Germany, 382.
Horses in Russia, 68, 145.
Hydatid Disease in Australia, 383.
Import and Export of Horses, 466.

NOTES AND NEWS (*continued*):—
Morphia *v.* Dog Poison, 145.
Ocular Filaria in Ceylon, 146.
Passing Rich on Eighty Pounds a Year, 224.
Ponies Living without Food for Twenty-five days, 296.
Protective Inoculation, 68.
Recovery from Hydrophobia, 382.
Scarlet Fever in Horses, 145.
Serious Horse Case, 382.
Tearing off Horses' Soles, 224.
Trichinosis in Germany, 295.
Tuberculosis in Australia and New South Wales, 383.
Veterinary Honours, 146, 224, 382.
Veterinary Profession at the Royal Academy, 466.
Nunn, J. A. Chorea in a Goat, 84.

Obituary, 68, 144, 222, 286, 381, 466.
Ocular Filaria in Ceylon, 146.
Ontario Veterinary Association, 220.
Ontario Veterinary College, 142, 462.
Osteo-porosis. C. Rutherford, 413.

PARLIAMENTARY INTELLIGENCE:—
Army Veterinary Department and Transport and Commissariat Services, 287.
Parturient Apoplexy. J. H. Cox, 11, 94.
Parturient Apoplexy, or Milk Fever in Cattle, 391.
Parturient Apoplexy. R. Glass, 394.
Passing Rich on Eighty Pounds a Year, 224.
Pasteur's Researches in Rabies Canina, 426.
Pathological Society of London, 64.
Pericardium, Rupture of the. A. Leather, 318.
Pleuro-pneumonia. Protective Inoculation for, 306.
Poyser, R. Observations on Anthrax, 88, 177, 258.
Ponies Living without Food for Twenty-five days, 296.
Practice, Cases occurring in. A. E. Macgillivray, 234.

PROCEEDINGS OF SOCIETIES:—
Annual Meeting of Scottish Veterinary Associations, 282.

PROCEEDINGS OF SOCIETIES (*continued*):—
Border Counties Veterinary Medical Society, 40, 141.
Central Veterinary Medical Society, 269, 375.
Devon County Veterinary Medica Association, 218.
Examinations of the Royal College of Veterinary Surgeons, 142.
Glasgow Veterinary College, 48.
Lancashire Veterinary Medical Association, 215, 358.
Lincolnshire Veterinary Medical Society, 37, 271.
Liverpool Veterinary Medical Association, 140, 279.
Midland Counties Veterinary Medical Association, 33, 204, 439.
Montreal Veterinary Medical Association, 377.
Montreal Veterinary College, 461.
National Veterinary Benevolent and Defence Funds, 284.
New Veterinary College, Edinburgh, 41, 379.
Norfolk and Eastern Counties Veterinary Medical Association, 217.
North of England Veterinary Medical Association, 374.
North of Ireland Veterinary Medical Society, 45, 137.
Ontario Veterinary College, 142, 462.
Ontario Veterinary Association, 220.
Pathological Society of London, 64.
Royal Agricultural Society of England, 54, 284.
Royal College of Veterinary Surgeons, 198, 221, 343, 457, 433.
Royal Counties Veterinary Medical Society, 141, 273.
Royal (Dick's) Veterinary College, Edinburgh, 378.
Scottish Central Veterinary Medical Association, 219.
Scottish Metropolitan Veterinary Medical Association, 57, 363, 452.
Southern Counties Veterinary Medical Association, 350.
West of Scotland Veterinary Medical Association, 218, 448.
Yorkshire Veterinary Medical Society, 211, 279, 373.

Professional Advertising in Ireland, 307, 385.
Profession, Is it Progressing or Retrograding? 470.
Professional Wanderings, 388.
Purpura Hæmorrhagica and Tetanus. J. J. Doyle, 86.

Qualifications for Councilship, 302.

Rabies, M. Pasteur on, 265.
Red Mange in Dogs, 469.
Relation of the Council of the Royal College of Veterinary Surgeons to the Schools, 368.
Retrospect and Prospect, 22.
Roberts, J. Imperforate Anus, 83.
Ross, A. G. Soundness in Horses, 176.
Royal Agricultural Society of England, 54, 284.
Royal Counties Veterinary Medical Society, 141, 273.
Royal College of Veterinary Surgeons, 198, 221, 343, 433, 445.
Royal (Dick's) Veterinary College, Edinburgh, 379.
Rule of the Profession on Commencing Practice, 35.
Rutherford, C. Osteo-porosis, 413.

Scarlet-Fever in Horses, 145.
Scotland and the Council of the Royal College of Veterinary Surgeons. The Coming Election, 310.
Scottish Central Veterinary Medical Association, 219.
Scottish Metropolitan Veterinary Medical Associations, 57, 363, 452.
Serious Horse-Disease, 382.
Sloughing in Ringworm, 307.
Smut in Plants as a cause of Abortion in Cattle, 125.
Soundness in Horses, Question of, 303.
Soundness, Observations on. H. Dyer, 313, 418.
Soundness in Horses. A. G. Ross, 176.
Southern Counties Veterinary Medical Association, 350.
Sphygmography, Comparative. D. Astley and J. Brodie Gresswell, 410.
Splenic Apoplexy. J. B. Gresswell, 1
Steel, J. H. India, Everyday Matters in, 427.
Story, Two Sides to a, 70, 151, 230.
Straightening Horses' Tails, 469.
Stringhalt. Professor Dieckerhoff, 190.
Steel, J. H. Everyday Matters in an Indian Military Veterinary Practice, 26, 128.
Students and Practitioners, 147.
Swine Plague, 25.

Tetanus in India. G. H. Fenton, 398.
Tetanus. W. R. Davis, 174.
Tercentenary of the Edinburgh University, 336.
Tobacco as an External Application, The Action of. W. Cox, 317.
Trichinosis in Germany, 295.
Tuberculosis, 103, 153.
Tuberculosis in Australia and New South Wales, 383
Two Sides to a Question, 308.

Unsoleing for Ringbone and Sidebone, 297.
Unsoleing Horses' Feet, 228.

Variola and Vaccinia, Non-identity of. G. Fleming, 184.
Veterinary College for Ireland, Proposed, 337.
Veterinary Honours, 146, 224, 382.
Veterinary Inspectors' Fees, 467.
Veterinary Profession at the Royal Academy, 466.

Welsby, W. J. Epizoötic Chorea in Retriever Pups, 85.
West of Scotland Veterinary Medical Association, 218, 448.

Yellow Fever in Cattle in Sicily, 431.
Yorkshire Veterinary Medical Society, 211, 279, 373.

Zooglœic Tuberculosis, 197.
Zymotic Diseases and Dairies. W. A. Edgar, 6.